Leadership for Web 2.0 in Education: Promise and Reality

Executive Summary

> *"Today's digital natives (our students) expect to communicate, learn and explore their world using technology 24/7. To keep up with them, to meet their learning preferences and to engage them in the learning process, we need to make schools relevant to them. We cannot do that without keeping up with technology and Web 2.0."*
>
> – A Curriculum Director in New York

Web 2.0 tools can provide highly interactive and participatory environments that establish communities, open a myriad of communication channels, and ensure each individual and group a voice. In fact, there is a growing body of evidence that the collaboration inherent in the participatory nature of Web 2.0 tools can be leveraged to deepen student learning through authentic, real-world learning.

Today's children and youth are immersed in the participatory Web 2.0 culture outside of schools, but too many are being asked to check their technologies each morning at the schoolhouse door. In this study, the Consortium for School Networking (CoSN) set out to answer the question, "To what extent are American K-12 schools redesigning schools to tap into the learning potential of Web 2.0?"

Through the generous support of the John D. and Catherine T. MacArthur Foundation, and with cooperation from ASCD and Common Sense Media, CoSN commissioned the Metiri Group to conduct the study.

The findings indicate that, at this point in time, educational mindsets and school cultures do not yet align learning to the realities of the 21st Century.

There are, however, also encouraging data which suggest that district administrators do see the educational significance for Web 2.0 and recognize the need for educational innovation.

This report will provide a basis for the development of a plan of action that CoSN, in conjunction with other educational organizations and agencies, will develop and implement in the months ahead.

Web 2.0 – A Definition

Web 2.0 is defined as an online application that uses the World Wide Web (www) as a platform and allows for participatory involvement, collaboration, and interactions among users. Web 2.0 is also characterized by the creation and sharing of intellectual and social resources by end users.

Examples of Web 2.0 applications are web logs or "blogs"; online diaries that allow the originator and readers to state ideas and react; WIKIS (e.g., Wikipedia), which are topical collections of information that can be edited by multiple individuals within a group; and social networking sites (e.g., Facebook) where users can create personalized pages of information and interact with others.

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Education and Web 2.0: Circa 2009

Education is a key element of the 2009 stimulus package launched by U.S. leaders to revive the vibrancy and strength of the American economy. The parallel investments in the economy and education underscore the importance of an informed, educated, 21st Century citizenry and workforce to this nation's recovery. The realities of the 21st Century – globalization, innovation fueling the economy, mounting complexity of issues in every realm of society, rapidity of technological advances – must be addressed in the preparation of children and youth in this country and around the globe.

In order to be competitive and responsible economically, politically, environmentally, and socially, U.S. youth must graduate from school ready to thrive in those realities, one of which is the participatory culture of Web 2.0 technologies. The results from this study indicate that the velocity of innovation and change in society, as represented by Web 2.0, is outpacing K-12 education's current capacity for innovation.

These findings represent a call to action for the nation's leaders. Innovative leadership will be required if all 14,199 school districts in the nation are to redesign learning to align to the realities of the 21st Century. The call is both immediate in its urgency to ensure that educators are effectively tapping the potential of participatory environments inherent in Web 2.0, and long-term in the need to use Web 2.0 to establish school cultures that continuously promote and embrace innovations that advance deep, authentic learning.

> *"… everywhere we look, there is work to be done. The state of the economy calls for action, bold and swift, and we will act — not only to create new jobs, but to lay a new foundation for growth… we will transform our schools and colleges and universities to meet the demands of a new age. All this we can do. And all this we will do."*
>
> – President Obama's inaugural speech, 20 January 2009

Through this study, CoSN has established a baseline metric for the innovative work ahead of K-12 schools. The convergence of emerging technologies, such as Web 2.0, together with the call for action from the American Recovery and Reinvestment Act (ARRA) represents a window of opportunity for educational policymakers and practitioners to take action. CoSN will be working with the John D. and Catherine T. MacArthur Foundation to advance this work.

CoSN and its collaborators invite readers to review and reflect on these findings and then to join forces with CoSN in leading the systemic, innovative change required of today's schools.

Methodology: The CoSN study methodology included: 1) the design and field testing of a Web 2.0 survey for three respondent groups: school district superintendents, curriculum directors, and technology directors; 2) the constructing of a representative, random sample from the 14,199 public school districts in the U.S. stratified by four locales (e.g., urban, suburban, town, and rural); 3) the data collection through online surveys; 4) the weighting of findings to ensure demographic representativeness; and 5) analysis and reporting of the results.

The report is based on the surveys from nearly 1200 district administrators, including 389 superintendents, 441 technology directors, and 359 curriculum directors. Not all questions were asked of the three administrator respondent groups. Throughout the report, the respondent group(s) and the associated weighted number of respondents who answered each question are identified. A complete methodology is included in the full report.

Summary Of Key Findings

1. **The nation's school district administrators are overwhelmingly positive about the impact of Web 2.0 on students' lives and on their education.**

   Nearly three-quarters of respondents (superintendents and curriculum directors) said that Web 2.0 technologies had been a positive or highly positive force in students' communication skills and the quality of their schoolwork. Over 50% of those same administrators believe that Web 2.0 has had a positive or highly positive impact on students' interest in school (67%), interests outside of school (70%), self-direction in learning (65%), sense of community and culture (65%), peer relationships (58%), relationships with parents and family (56%), and homework habits (55%). On the flip side, nearly half of these district administrators said that Web 2.0 had a negative or highly negative influence on exercise/physical conditioning. In addition, some district administrators (26%) said Web 2.0 negatively impacted homework habits.

   Figure 1: Percentage of district administrators registering positive/highly positive or negative/highly negative ratings as to the effect of the use of Web 2.0 applications on aspects of a student's life and education.
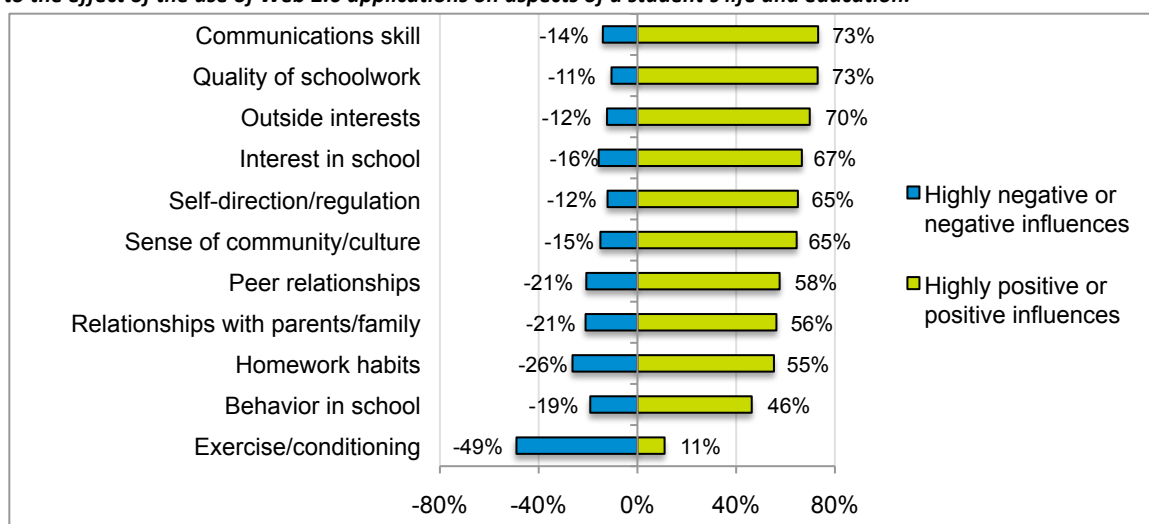
   n=1827 (Superintendents and Curriculum Directors). NOTE: The 3rd option: "No Impact" is not shown here

2. **Keeping students interested and engaged in school is the top priority for Web 2.0 use in American schools.**

   Over 77% of district administrators who responded to this question (superintendents and curriculum directors) agreed or strongly agreed with the statement "Web 2.0 has value for teaching and learning." When asked about the impact that Web 2.0 will have on teacher-parent communication, student-teacher relationships, and student-to-student relationships, most anticipated that Web 2.0 would have a positive impact.

   The seven highest-ranking priorities for Web 2.0 use by district administrators were:

   1. Keep students interested and engaged in school
   2. Meet the needs of different kinds of learners
   3. Develop critical thinking skills
   4. Develop capabilities in students that can't be acquired through traditional methods
   5. Provide alternative learning environments for students
   6. Extend learning beyond the school day
   7. Prepare students to be lifelong learners

It is also interesting to note that two issues identified nationally as key to America's competitiveness, global awareness and teaming/collaboration, did not make the top 7 list. With participatory cultures the essence of Web 2.0, it is apparent that K-12 district administrators have yet to realize that potential for learning.

3. The majority of district administrators believe that student use of Web 2.0 should be limited to participation on approved educational websites.

Over 60% of district administrators polled (superintendents, technology directors, and curriculum directors) believe that student use of Web 2.0 should be limited to approved educational sites. A significant minority of district administrators (24%) holds the less restrictive position that all use should be allowed, provided it is supervised. A higher percent of urban administrators were more inclined toward that less restrictive position than were their colleagues in other locales. Few districts ban all use, but nearly 15% advocate restricting use to within-district participation or limiting use to the accessing of information only. The least restrictive policies were advocated by curriculum directors (versus technology directors and superintendents) and by urban district administrators (in comparison to suburban, town, and rural locales).

Figure 2. Percentage of district administrators describing their district positions regarding the use of Web 2.0 in schools.
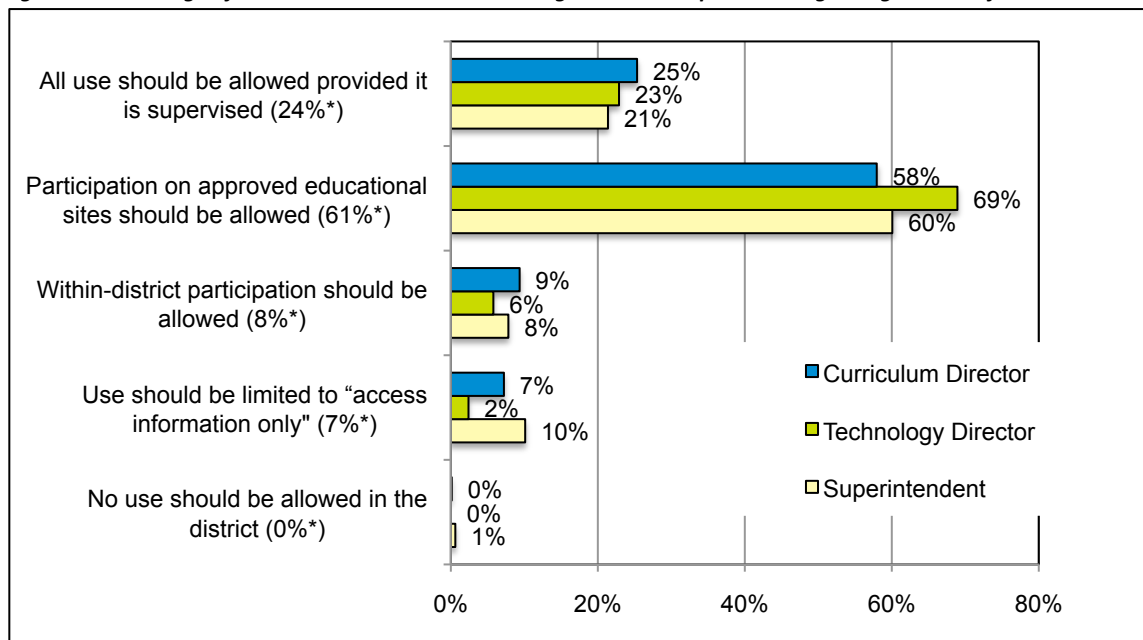
n=3,228 (Superintendents, Technology Directors, and Curriculum Directors).
Weighted average across all respondent groups.

School districts are only now developing new policies and practices regarding Web 2.0. Most are exploring the potential of Web 2.0 as they seek to build student awareness, keep students safe, and develop a sense of responsibility and rights related to Internet use among students, staff, and community. The following quote from a superintendent of schools exemplifies that struggle.

"Ensuring that students know how to utilize Web 2.0 tools in a safe and ethical way. The technology is here to stay—but our efforts to educate students on ethical use of this technology is primarily in implementing its regular use in the classroom."

> – A Superintendent in Nebraska

4. The majority of school districts ban social networking (70%) and chat rooms (72%) while allowing prescribed educational use for most of the other Web 2.0 tools (e.g., blogging, using wikis, sharing music or sound files, sharing visual media, posting messages, participating in virtual worlds, playing interactive games, creating polls or surveys, etc.).

Over three-fourths of all technology directors agreed or strongly agreed with the following statement: "Web 2.0 has caused the district to have discussions regarding its possible use and misuse." The majority (57%) agreed or strongly agreed that Web 2.0 had caused their district policymakers to become nervous about student use. Most technology directors also reported that some incidences of misuse had occurred in their districts. They identified the number one problem with student use of Web 2.0 as "wasting of time/distractions to learning," followed by: use of non-authoritative or biased sources, inappropriate or rude online social interactions, accessing inappropriate materials, and students giving out personal information.

The data from the surveys indicate that districts institute formal policies mainly in areas that surface as problems, such as those listed above. Currently most schools ban social networking and chat rooms, and over a third ban the sharing of visual media files, playing interactive games, sharing music or sound files and posting message on web sites. See Figure 3.

Figure 3: Percentage of technology directors who reported which type of policies guide the use of specific Web 2.0 applications in their districts.
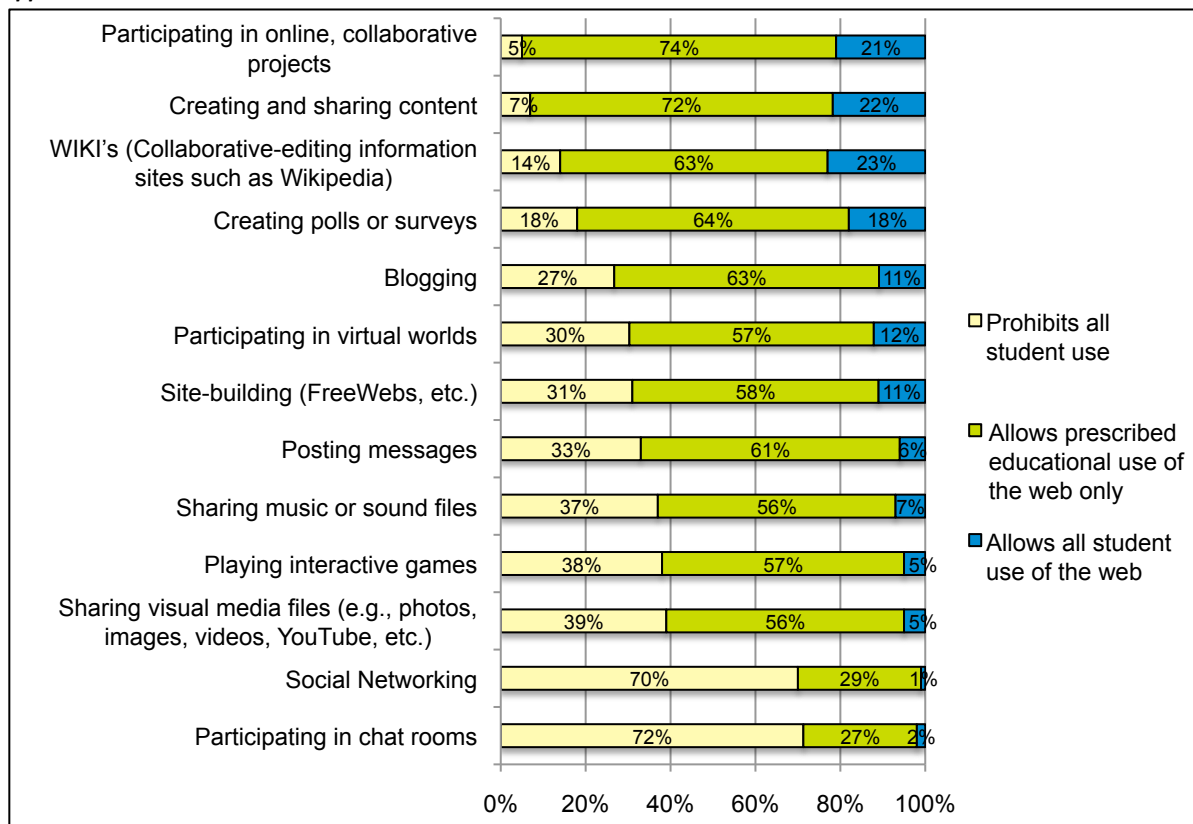

n=907 (Technology Directors)

Most district administrators reported relying on acceptable use policies, filtering systems, and informal practices to guide student use of the Web. Over 50% of district administrators reported that their filtering systems were more restrictive than that required by the federal policies.

5. While reporting low levels of general use, curriculum directors did describe significant opportunities for use of Web 2.0 tools in curricula and teaching materials.

District administrators reported that the uses of Web 2.0 most easily integrated into more traditional instructional practices are currently the ones most commonly included in curricula and instructional practices such as sharing visual media, creating polls or surveys, and participating in online, collaborative projects.

Figure 4: Percentage of district administrators who reported Web 2.0 use in teaching materials adopted by the district or included in the formal curricula
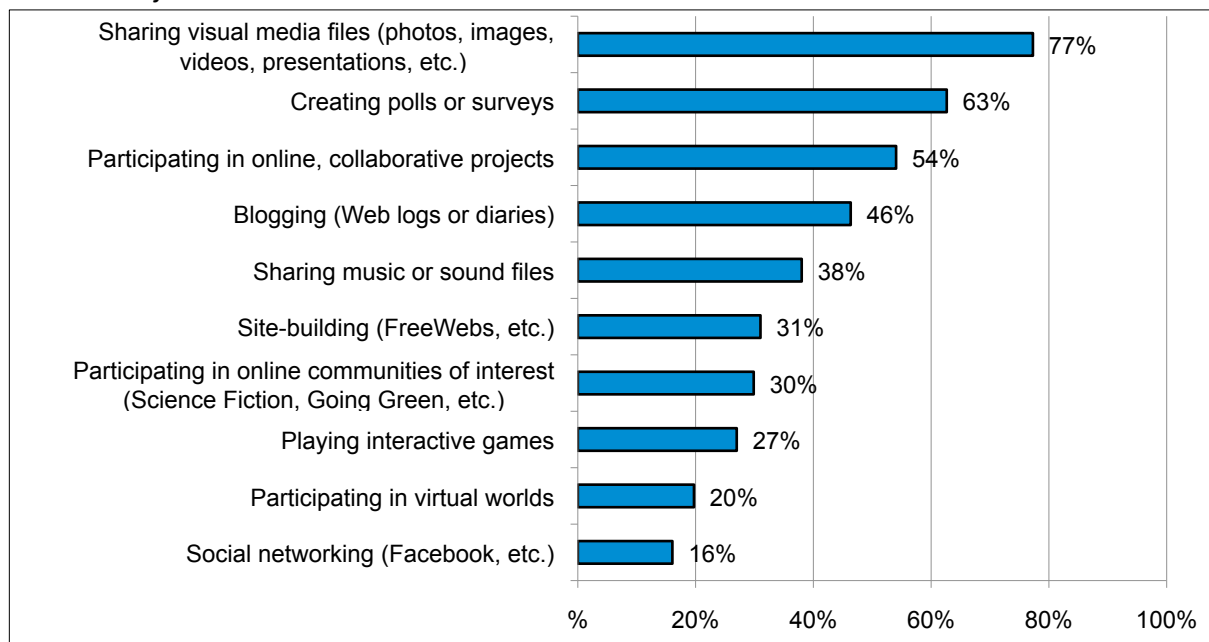
n=715 (Curriculum Directors). Note: Percentages sum to more than 100 percent due to multiple responses.

While district administrators believe there is potential value to learning in the Web 2.0 applications with significantly less use, the implication is that the more such use would require significant shifts in instructional approach, use of time, role and responsibility of learner and teacher, etc., the less likely it is that they will be used in schools.

6. Curriculum directors reported that Web 2.0 will be used most effectively at all grade levels in the content areas of social studies, writing, science, and reading.

A majority of curriculum directors anticipate that Web 2.0 will positively impact four major content areas at all grade levels: social studies, writing, science, and reading. The top three Web 2.0 applications associated with use in these content areas are: sharing visual media, online collaborative projects, and creating polls and surveys.

Over half of the curriculum directors reported that they expect little Web 2.0 impact at the elementary level in the areas of mathematics, visual and performing arts, or foreign language. Conversely, curriculum directors anticipated a positive Web 2.0 impact in those areas at the middle and high school levels.

7. **While there was broad agreement that Web 2.0 applications hold educational value, the use of these tools in American classrooms remains the province of individual pioneering classrooms.**

The majority of administrators reported that Web 2.0 tools have not been integrated into their district's curriculum. Over half of superintendents and curriculum directors also reported that these applications were not being used to support teaching and learning in their districts.

8. **Web 2.0 is outpacing K-12 education's current capacity to innovate.**

School district administrators acknowledged the critical need to use Web 2.0 to transform teaching and learning, and to change the structure of schools over the next decade. And yet, few had systemically begun to research, plan, or implement effective uses of Web 2.0, nor had they used Web 2.0 to restructure their schools into more participatory cultures.

More than 95% of district administrators said that Web 2.0 will require a new type of teacher training, 86% said that Web 2.0 will result in a blending between formal and informal learning, and 79% said that schools should take full responsibility for modeling Web 2.0 to deepen learning. Yet only 44% reported taking full responsibility for the restructuring of schools to accommodate Web 2.0.

Figure 5. Percentage of district administrators who "Agreed" or "Strongly agreed" that:
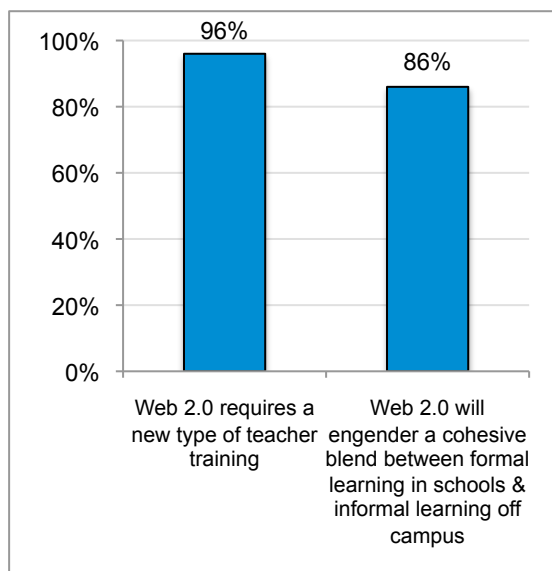
n=1,644 (Superintendents and Curriculum Directors).

Figure 6. Percentage of district administrators who said that schools had full responsibility for:
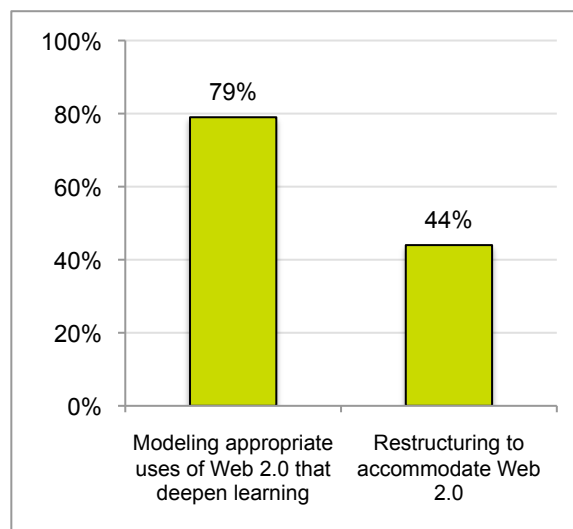
n=2,487 Superintendents, Technology Directors, and Curriculum Directors).
NOTE: Respondents were asked to rate the statements above on a 6-point scale, anchored at 1 "No Responsibility" to 6 "Full Responsibility." Percentages above are the sum of respondents who selected either 5 or 6.

"The traditional way we 'do school' will change as students have more access to the world around them. If we are producing globally competitive students, we have to adapt to the world they will encounter."

   –An Urban Superintendent

9. District administrators, the persons responsible for decision making on Web 2.0 in schools, are more passive than active users in the Web 2.0 space.

Most of the current use of Web 2.0 applications by district administrators (superintendents, technology directors, and curriculum directors) is restricted to accessing and viewing of content using a few of the more common applications such as Wiki's and blogs.

Figure 7: Percentage of district administrators indicating their highest level of use of each of these Web 2.0 applications.
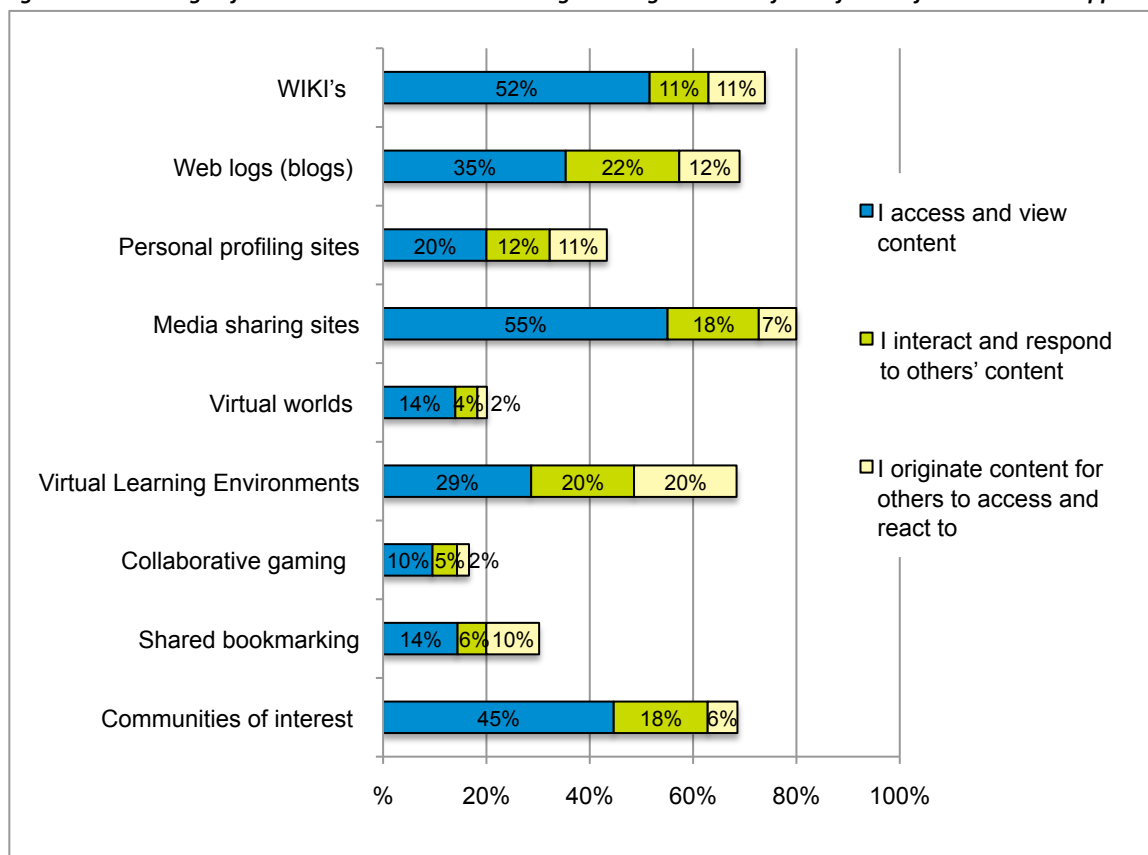
n=2395 (Superintendents, Technology Directors, and Curriculum Directors)

There was some variation in the personal use of Web 2.0 by administrators according to job classification (i.e., technology directors' usage was more interactive than was superintendents or curriculum directors). However, overall use by all three administrator roles was primarily limited to the accessing of content, with very low percentages either interacting or responding on line, and fewer still originating content online. This lack of experience with Web 2.0 by decision makers may be due to the recency of Web 2.0, but comments from survey respondents indicate that it serves as a barrier to informed decision making.

"I am not sure we all know what is out there to be used — no less how to effectively use it!"

– A Superintendent