

Comprehensive Evaluation of MyGateway Use by Faculty and Students
Report of WS 2005

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Comprehensive Evaluation of MyGateway Use by Faculty and Students WS 2005 Executive Summary

The following information details findings from a survey that collected data on student assessments of MyGateway use in classes during Winter Semester 2005. The survey instrument is designed to collect data regarding the computing resources available to students, the degree of use made of MyGateway in select classes, and the perceptions of students regarding the use of MyGateway in classes. We sampled 5% of the courses using MyGateway (54), and included an additional targeted sample of courses using ITV, web-only, or video-based instruction (75). *High use* classes were distinguished from *low use* classes based on the instructor's use of the course site as well as student activity in the course site. A total of 1107 students completed the survey. This represents 9.7% of the total number of students (11,416) taking regular classes at UM-St. Louis during the winter semester 2005, and a survey response rate of 31% for the sample. We focused on the degree of use of MyGateway within classes to help us understand how students in classes that use it more compare to those in classes that use it less.

The MyGateway survey has been done four times since the Fall 2001 semester. Each survey indicated that student satisfaction and perceived benefits from MyGateway increase in courses where the system is used more. **Student self-reports in each of these surveys indicate an increased engagement in courses (defined as spending more time on the course) in high use classes. More significantly, each iteration of the survey found that student intent to take additional classes and complete their degree at UMSL is increased by use of MyGateway.**

Survey highlights

- Sixty-nine percent (69%) of students indicate they own a Pentium class or Macintosh personal computer. Only 4.4% of the students report not owning a personal computer.
- Nearly 71% of students access MyGateway primarily from off campus.
- Sixty-seven percent (67%) of students report some form of off-campus, broadband Internet access (DSL, cable modem, or work LAN). This is up from 51% in FS 2003.
- Twenty-five percent (25%) of students report spending three or more hours online each week for the course surveyed.
- Nearly 65% of the students indicated they accessed MyGateway two or more days a week for their course work.
- **Learning Activities**--students in classes with *high use* of MyGateway were more likely ($p < .0004$) to:
 - seek clarification when they did not understand something (Question 9)
 - review lecture notes for clarification (Question 10)
 - receive instructor feedback quickly (Question 11)
 - spend more time studying (Question 15)
 - do better in their class (learn more) (Question 19)
 - find the use of online quizzes helpful (Question 24)
 - find access to course grades helped them stay more engaged (Question 25)
 - report online discussions made them think more about course topics (Question 26)
 - complete course assignments (Question 27)
- **Student Satisfaction**--students in classes with *high use* of MyGateway were statistically more likely ($p < .0004$) to:
 - agree that they are very satisfied with the course (Question 20)
 - take another course at UMSL because of MyGateway (Question 30)
 - complete their degree at UMSL because of MyGateway (Question 31)
 - agree that they were more able to seek clarification (Question 8)

- **Students in both high and low use classes agreed that they would like to see MyGateway used in all of their classes** (mean score: 2.31 and 2.25, respectively).
- **Communication**--students in classes with *high use* of MyGateway were statistically more likely ($p < .0004$) to:
 - communicate with their instructor (Question 16)
 - communicate with other students in the course (Question 12)
 - work in online groups (Question 13)
 - work in face-to-face groups (Question 14)
- **Benefits** to students in *face-to-face, hybrid* (mixture of class sessions and online activity), or *online* courses were similar to the previous year's list.
 - Immediate access to grades and other course information and tracking individual progress (N=406)
 - Ability to communicate with professors and classmates (N=172)
 - Convenient and expedient means to complete course work (N=118)
 - Personal organization (N=43)
 - Time and travel to campus saved (N=52)
 - Connection to campus strengthened (N=26)
- **The most frequent response to a question about problems experienced was “No Problem”** (N=335). Problems noted by students included:
 - Log-in and slow loading of MyGateway (N=55)
 - Teachers not keeping course site up-to-date or making full use of the features (N=42)
 - Inconsistent use of MGW and posting of documents (e.g., without dates or reference to course topics/assignments) makes for confusion (N=32)
 - Navigating MGW is time-consuming (N=12)

Overall Impact of Online Materials and Learning Activities

Faculty and students continue to make significant strides incorporating MyGateway into the learning process. The use of MyGateway is leading to changes in how students and instructors define their respective roles in the classroom. **Student perceptions, attitudes, and behaviors documented in this survey, and the consistency of these findings over the previous four years, highlight MyGateway’s contribution to furthering strategic campus goals:**

- **Recruitment**
- **Retention**
- **Student engagement**
- **Community building**

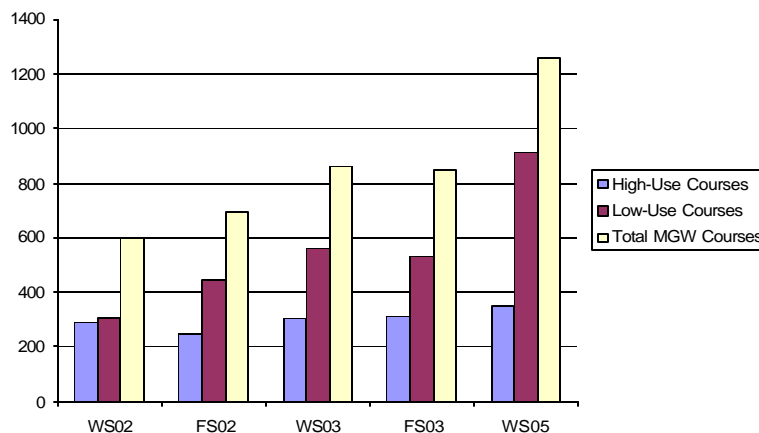


Figure A: Courses Using MyGateway

The number of courses using MyGateway has increased each year. However, the number of courses making extensive use of MyGateway has not increased at the same pace as those categorized as "low-use" courses. *Although our survey analysis indicates a significant correlation between MyGateway use and student satisfaction, engagement, and retention, our efforts to encourage faculty to explore the full potential of Mygateway needs to be extended.*

Technology in the Classroom

The following recommendations, drawn from student responses, are offered as a means of continuing to insure student acceptance of MyGateway and to promote effective use of campus online resources.

- Deliberate use of MyGateway by instructors – integrating the online features of the system into course requirements to avoid perception of "add-on" work
- Providing students with information on how to access campus computing resources when they experience problems
- Answering criticisms when MyGateway is perceived as not being appropriate for certain courses
- Blending Internet-based, asynchronous learning activities with face-to-face experiences as a means of increasing student engagement

Behavior and Perception

- Students frequently commented that knowing their grades and current standing is a benefit of using MyGateway
- MyGateway is increasingly characterized as a learning aid, making education accessible and providing "flexibility"
- MyGateway enables a sense of belonging with the campus, keeping up with events, programs and news
- A small fraction of students indicated they don't like to use MyGateway

Implications and recommendations drawn from the data continue to guide technology planning and support provided by Information Technology Services and UM-St. Louis academic administration. Future support and training will focus on those things that will help improve our students' learning outcomes and satisfaction in blended learning classes. Additionally, insights drawn from the data can help UM-St. Louis continue to refine the blend of traditional face-to-face classroom experience with online resources.

Comprehensive Evaluation of MyGateway Use by Faculty and Students

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Purpose

The ongoing evaluation of technology-enhanced credit courses, making use of the course management tool, MyGateway, documents the experiences of two key stakeholder groups: enrolled students and teaching faculty. The questions and subsequent analyses here identify essential support strategies for faculty who use technology to improve learning experiences for students. Objectives include:

- Documentation of improvements in UMSL students' computing capabilities and sophistication,
- Documentation of the use of MyGateway features by selected faculty in WS 2005, and,
- Demonstration of indicators of optimal teaching and learning interactions between and among faculty and students.

Methodology

A stratified random sample (5 percent of "active" courses within MyGateway) was selected according to levels of faculty use of the course management tool MyGateway [total courses=1,080]. The number of courses randomly selected=54; those not participating=4. An additional targeted sample consisted of the total population of MyGateway courses involving ITV and Internet classes (N=75). This semester we measured daily instructor access of 12 key content and administrative areas along with student activity. Measurement was taken on March 8, 2005. **Courses with an instructor ranking above the mean were considered *high use courses*, and courses with an instructor ranking below the mean were considered *low use courses***. Faculty members were contacted for participation and scheduled for in-class completion of the questionnaires during the evaluation period, April 4-May 13, 2005.

Completed surveys by undergraduate and graduate students numbered 1107 (31% response rate) [approximate enrollment in sample=3597, including 988 in the random sample and 2,609 in the targeted sample]. *Low use* courses numbered 54 (50 participated); *high use* courses numbered 75 (all participated). Students responding in *high use* courses numbered 779, while 328 students in *low use* courses responded. The response rate was substantially lower for the online surveys 493 (19%) than for face-to-face surveying 614 (62%).

Questions in the MyGateway Student Survey focused on:

- Computing and Internet access
- Engagement in learning activities in MyGateway courses
- Student satisfaction with courses using MyGateway
- Communication between students, and between students and teachers

Computers and Access for Students

Technology requisites are a computer and Internet access. Students were asked to check primary computer access and capabilities they had available. Types of Computer, Primary Access Location, and Type of Internet Connection are the three tables that follow.

The survey has been done four times between Fall 2001 and Winter 2005. Over each iteration an increasing percentage of the respondents have reported owning a newer computer (e.g., Pentium). Over 69% in Winter 2005 compares to just over 65% in the prior semester. Those

owning a Macintosh have not varied much from semester to semester -- within the range of 2.4%-4.4%. Only 4.4% of the students indicated they did not own a personal computer.

The percent of students not owning a personal computer has shown a trend down from semester to semester. The range is a high of 16.5% in the first semester of surveying, FS 2000, to 4.4% in the current survey.

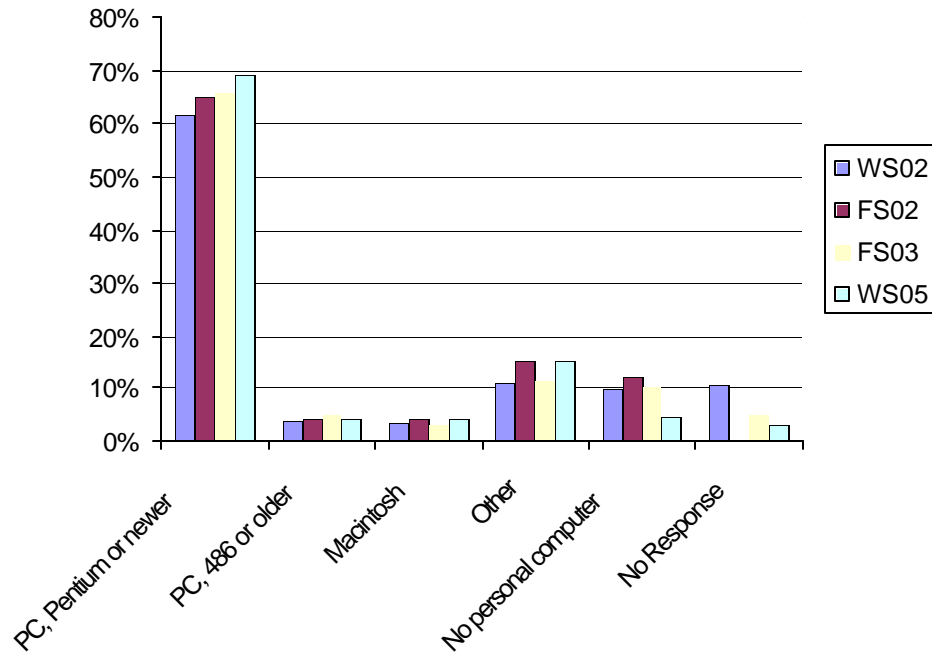


Figure 1: Types of Computers Owned by Students

Students in the *High Use* and *Low Use* courses had very similar access to the Internet. Over time, there has been a steady increase in access from home and work, with a slightly lower percentage using on campus computer labs.

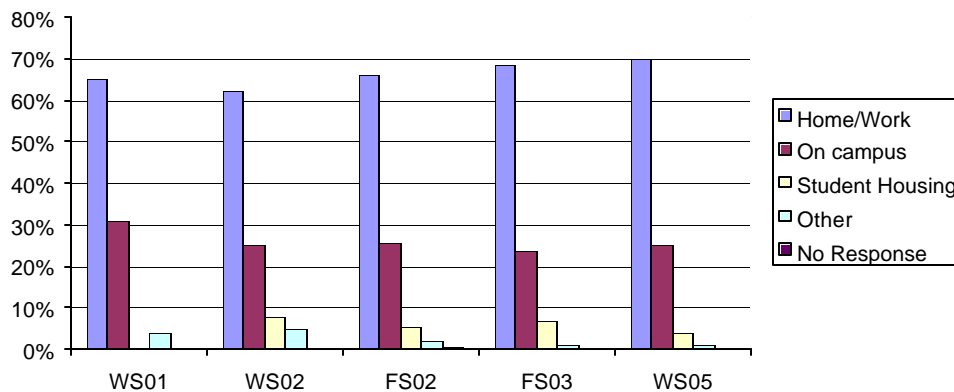


Figure 2: Primary Access Location

If a student's primary access was from off campus, they were asked specifics about the type of Internet connection: dial-up telephone via modem, dial up with DSL, cable modem, or other. See Table 3 for connection details of both groups.

Broadband connections to the Internet (e.g., DSL and cable modems) have increased overall, with DSL outpacing cable modems in both groups. Slightly over half of this student sample has broadband capabilities (67%), compared to 50.7% in the student sample one year ago.

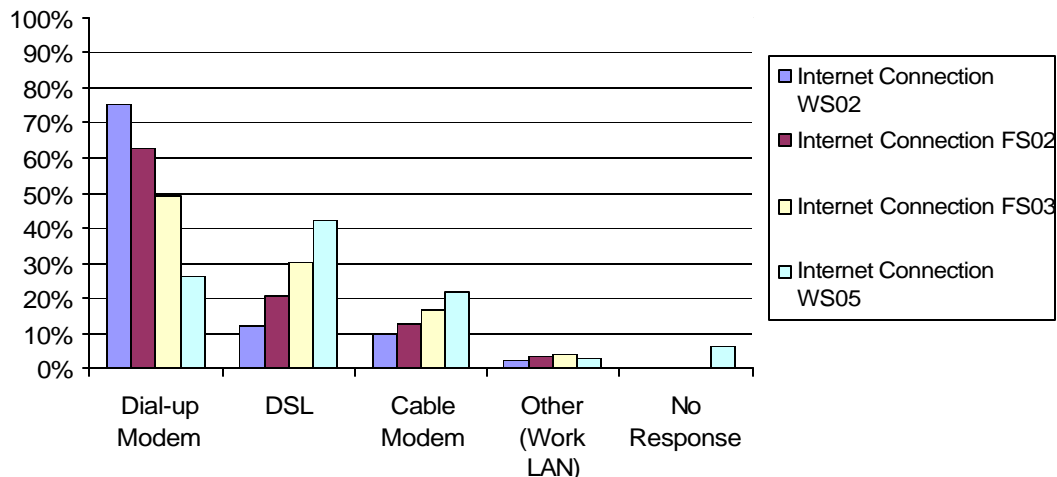


Figure 3: Type of Internet Connection to UMSL Servers

This semester, we asked students to comment on how much time they spent working online for the course in which they were surveyed. Students in *High Use* courses indicate that they spend more time online for their courses.

TIME SPENT ONLINE (Q8) (WS05 MARKS THE INTRODUCTION OF THIS QUESTION)	PERCENT OF STUDENTS IN LOW USE COURSES	PERCENT OF STUDENTS IN HIGH USE COURSES	PERCENT OF ALL STUDENTS
Less than 1 hour per week	67.1%	43.2%	51%
1-3 hours per week	21.1%	24.8%	23.6%
3-6 hours per week	9.0%	23.8%	19%
6-10 hours per week	1.7%	5.5%	4.3%
More than 10 hours per week	.7%	2.7%	2%
No answer	.3%	0%	.1%

Table 1: Time Spent Online for Surveyed Courses

We also asked students about their perceptions of their use of MyGateway for the class in question. Students in *High Use* courses are nearly twice as likely as students in *Low use* course to report accessing MyGateway three or more days per week.

FREQUENCY OF MYGATEWAY USE (Q5) (WS05 MARKS THE INTRODUCTION OF THIS QUESTION)	PERCENT OF STUDENTS IN LOW USE COURSES	PERCENT OF STUDENTS IN HIGH USE COURSES	PERCENT OF ALL STUDENTS
Everyday	6.2%	16.9%	13.7%
3-4 days a week	24%	43.6%	37.8%
1-2 days a week	33.8%	29.1%	30.5%
Less than once a week	35.4%	10.4%	17.8%
No answer	.6%	0%	.2%

Table 2: Student Perceptions of MyGateway Use

Learning With MyGateway

We examine the degree to which level of use (high or low) of MyGateway predicts student perceptions over the following dependent variables: Learning Activity (questions 9, 10, 11, 15, 19, 24-27), Student Satisfaction (questions 20, 28-31), Student/Teacher Communication (questions 11, 16, 17), Student/Student Communication (questions 12-14), and Perceived Learning Outcome (questions 19, 24). [A copy of the survey instrument is attached as Appendix A beginning on page 19 of this report]

Level of Use and MyGateway Student Evaluations

The survey items allow us to analyze differences between students in classes with low use of MyGateway and students in classes with high use. Our working hypothesis is that increased exposure to classes using MyGateway results in higher degrees of learning activity, satisfaction, and student/teacher communication.

Every Learning Activity item measured by the MyGateway survey indicates that students in *low use* classes are more likely ($p < .0004$) to *disagree* with positive statements about learning activities in MyGateway classes. Thus, students in classes with *high use* of MyGateway were more likely to seek clarification when they did not understand something (Question 9), review lecture notes for clarification (Question 10), receive instructor feedback quickly (Question 11), spend more time studying (Question 15), do better in their class (learn more) (Question 19), find the use of online quizzes helpful (Question 24), find access to course grades helped them stay more engaged (Question 25), suggest online discussions made them think more about course topics (Question 26), and complete course assignments (Question 27). **The responses to this cluster of questions documents the significant role of effective use of MyGateway in promoting student engagement in their courses.**

Use Of MyGateway In Relation To Learning Activity

	high/low	N	Mean	Std. Deviation	Std. Error Mean
q9	L	311	4.19	2.478	.141
	H	732	3.38	2.214	.082
q10	L	287	4.63	2.636	.156
	H	698	3.48	2.356	.089
q11	L	305	4.49	2.727	.156
	H	739	3.17	2.334	.086
q15	L	302	5.04	2.382	.137
	H	723	3.86	2.227	.083
q19	L	308	4.31	2.421	.138
	H	742	3.04	1.996	.073
q24	L	280	4.72	2.730	.163
	H	660	3.74	2.612	.102
q25	L	314	3.22	2.626	.148
	H	754	2.26	1.871	.068
q26	L	285	5.01	2.713	.161
	H	714	3.67	2.528	.095
q27	L	308	3.59	2.309	.132
	H	742	2.83	2.002	.074

Table 3: Group Statistics-Learning Activity

Independent Samples Test					
Question	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
q9	5.186	1041	.000	.806	.155
q10	6.716	983	.000	1.149	.171
q11	7.891	1042	.000	1.319	.167
q15	7.561	1023	.000	1.178	.156
q19	8.803	1048	.000	1.271	.144
q24	5.228	938	.000	.987	.189
q25	6.742	1066	.000	.960	.142
q26	7.389	997	.000	1.337	.181
q27	5.376	1048	.000	.764	.142

Table 4: Learning Activity Items (independent samples t-test)

Use of MyGateway in Relation to Satisfaction

Four items (questions 20, 28, 30, 31) related to student satisfaction with courses using MyGateway indicate that students in *low use* classes are more likely ($p < .0004$) to *disagree* with positive statements about their satisfaction with MyGateway classes. Responses to question 29 are uniformly skewed towards agreement with the statement (“I would like to have MyGateway used in other courses”) regardless of degree of use. **This finding follows the trend we noted in our analysis of last year’s survey. In all the previous surveys, student satisfaction was predicted by use level as well.**

Question	high/low	N	Mean	Std. Deviation	Std. Error Mean
q20	L	311	4.17	2.459	.139
	H	745	2.84	2.007	.074
q28	L	305	5.07	2.141	.123
	H	738	4.49	2.279	.084
q29	L	314	2.25	1.842	.104
	H	751	2.31	1.820	.066
q30	L	307	3.77	2.446	.140
	H	735	3.16	2.238	.083
q31	L	287	3.82	2.392	.141
	H	692	3.24	2.199	.084

Table 5: Group Statistics-Satisfaction Items

Question	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
q20	9.205	1054	.000	1.336	.145
q28	3.767	1041	.000	.574	.152
q29	-.419	1063	.675	-.051	.123
q30	3.885	1040	.000	.607	.156
q31	3.657	977	.000	.580	.158

Table 6: Satisfaction Items (independent samples t-test)

Students in high use courses were more likely to agree with question 20 (“I am very satisfied with this course because it used MyGateway”). This finding confirms previous responses to the question. For question 28 (“It takes more effort to complete a course that uses online resources like MyGateway”) we see a continuation of a trend first noted in the Fall 2003 survey with students in *low use* classes being more likely to disagree with the negative statement. For questions 30 and 31 however, a pattern from the fall 2002 survey continues; students in *high use* courses were more likely to agree with question 30 (“I am more likely to take another course at UMSL because it uses MyGateway”) and with question 31 (“I am more likely to complete my degree at UMSL because of the advantages of using MyGateway in my courses”). **In other words, students in high use courses are motivated by their degree of use of MyGateway to take other courses and complete their degree program.**

Responses to question 29 (“I would like to have MyGateway used in all my courses”) do not signify a distinction between the two groups. **Students both *high* and *low* use classes indicate a preference for having MyGateway used in all of their classes** (means: 2.25 and 2.31).

Use of MyGateway in Relation to Student/Teacher Communication

	high/low	N	Mean	Std. Deviation	Std. Error Mean
q11	L	305	4.49	2.727	.156
	H	739	3.17	2.334	.086
q16	L	315	3.54	2.370	.134
	H	740	2.81	1.999	.073
q17	L	300	4.34	2.759	.159
	H	712	3.10	2.407	.090

Table 7: Group Statistics-- Student/Teacher Communication

Question	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
q11	7.891	1042	.000	1.319	.167
q16	5.141	1053	.000	.732	.142
q17	7.161	1010	.000	1.240	.173

Table 8: Student/Teacher Communication Items (independent samples t-test)

The three items related to student/teacher communication in courses using MyGateway indicate that students in *low* use classes are more likely ($p < .0004$) to *disagree* with positive statements about their degree of communication with faculty in MyGateway classes. **Thus, students in classes with *high* use of MyGateway were more likely to agree that they were able to receive instructor comments on assignments quickly (Question 11), communicate with their instructor (Question 16), and (a continuation of a trend from Fall 2003) receive feedback on quizzes and exams quickly (Question 16);** the latter point is indicative of the increasing use of online assessments in MyGateway.

Use of MyGateway in Relation to Student/Student Communication

	high/low	N	Mean	Std. Deviation	Std. Error Mean
q12	L	308	4.54	2.492	.142
	H	736	3.32	2.318	.085
q13	L	286	6.03	2.175	.129
	H	688	4.26	2.655	.101
q14	L	284	6.12	2.045	.121
	H	648	5.28	2.328	.091

Table 9: Group Statistics- Student/Student Communication

Question	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
q12	7.626	1042	.000	1.227	.161
q13	9.994	972	.000	1.775	.178
q14	5.239	930	.000	.837	.160

Table 10: Student/Student Communication Items (independent samples t-test)

The three items related to student/student communication in courses using MyGateway indicate that students in *low use* classes are more likely ($p < .0004$) to *disagree* with positive statements about their degree of communication with faculty in MyGateway classes. **Thus, students in classes with *high use* of MyGateway agreed that they were more likely to communicate with other students in the course (Question 12), work in online groups (Question 13), and work in face-to-face groups (Question 14).**

Use of MyGateway in Relation to Perceived Learning Outcomes

	high/low	N	Mean	Std. Deviation	Std. Error Mean
q19	L	308	4.31	2.421	.138
	H	742	3.04	1.996	.073
q24	L	280	4.72	2.730	.163
	H	660	3.74	2.612	.102

Table 11: Group Statistics- Perceived Learning Outcome

Question	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
q19	8.803	1048	.000	1.271	.144
q24	5.228	938	.000	.987	.189

Table 12: Perceived Learning Outcome by Use (independent samples t-test)

Two items in the survey are designed to measure student perceptions of learning outcomes. Questions (19, and 24) indicate that students in *low use* courses are more likely ($p < .0004$) to *disagree* with positive statements about their learning outcomes, with students in high use courses more likely to *agree* with those same statements. **Thus, students in high use courses were more likely to agree with question 19 “Using MyGateway in this class helped me do better (learn more)” and question 24 “The use of online quizzes and tutorials in MyGateway helped me learn course content” (a continuing pattern first seen in Fall 2003).**

Discussion

The data presented above indicate that increased use of MyGateway results in higher estimates of learning activity, higher degrees of satisfaction, more student/teacher communication, more student/student communication, and a perception of increased learning outcomes. Additionally, the data suggests that increased use of online assessments and other activities contributes

positively to student perceptions of satisfaction and learning outcomes. The data from the current MyGateway survey lend support to the conclusions reached in the survey analysis of 2001, 2002, and 2003; **the more students are exposed to MyGateway the higher their estimation of its positive effects, and the more likely they are to continue (and complete) their education at UM-St. Louis.** In fact, what we document with this analysis is that the positive effects are not simply consistent based on MyGateway use, but increase as the use of MyGateway increases in the classroom and throughout the campus. **High use of MyGateway results in:**

- **Increased reports of learning activities (student engagement)**
- **Higher levels of student satisfaction with their courses**
- **More Student communication with their instructors**
- **More communication between students**
- **Higher levels of perceived learning outcomes**

Benefits of Using MyGateway

Seven-hundred and fourteen (444 students from *High use* classes, and 270 students from *Low use* classes) students provided written comments concerning their perceptions of MyGateway use in class and on campus. Students described specific experiences using MyGateway in response to open-ended questions: “what are the benefits of using MyGateway,” and “did you have any problems using MyGateway?” The research team established categories of response based on a thematic analysis to isolate similarities and differences in the perceived benefits and problems reported by the students. Manual counts of comments were done for each category. Responses applicable to more than one category were counted in each.

Number of students listing specific benefits of MyGateway

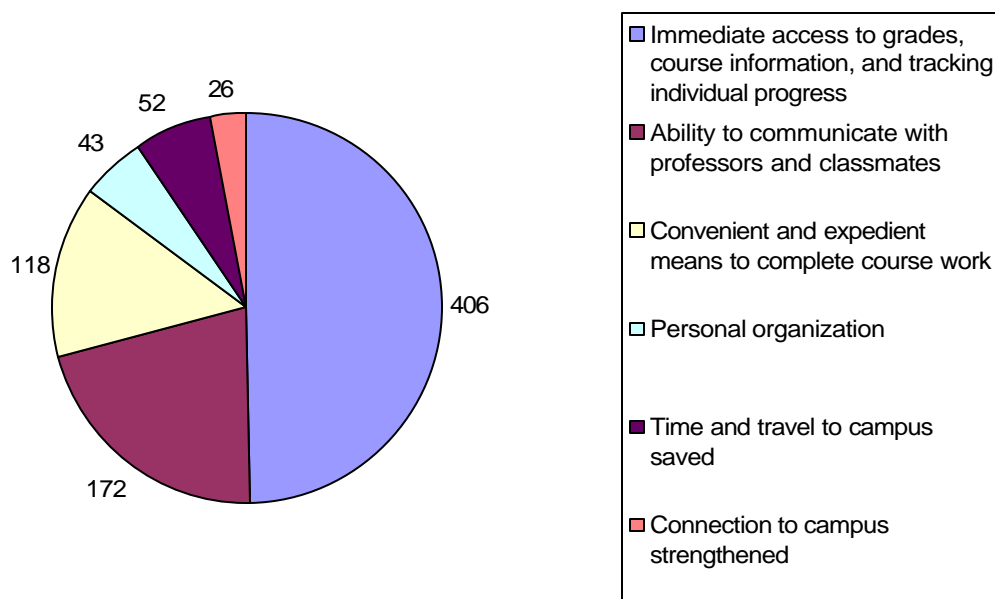


Figure 4: Benefits of using MyGateway

Access to grade information provides students with critical information that allows them to track their status in a particular course. This extends a trend from the Fall 2003 survey where “knowing grades” ranked at the top of the perceived benefits list. Students are aware of the value of MyGateway in keeping them informed as to their progress in a course. This information can allow students to modify work habits in order to maximize their performance in their courses.

Benefits, in their own words

- *I stay more involved with all of my classes and it helps me know exactly where my grades are.*
- *Being able to view grades helps a lot to motivate me...I can easily chart my progress through the grade book.*
- *I think it is necessary to have MyGateway because it plays a huge role in keeping students connected with their courses.*
- *I can send emails to the teacher and the other students very easily and the discussion boards foster open dialogue.*
- *I have really benefited from using MyGateway. I work and have 3 busy children. I feel this is a wonderful way to continue my education and take care of my family.*
- *[MyGateway] is a centered place to access documents and grades for all my courses.*

Problems in Using My Gateway

The most frequent response to the question, "Did you have any problems using MyGateway?" was "No Problem" (*High use* N=222; *Low use* N=113). **Students listed fewer problems than benefits.** Problems noted among this sample of students included:

Number of students listing specific problems with MyGateway

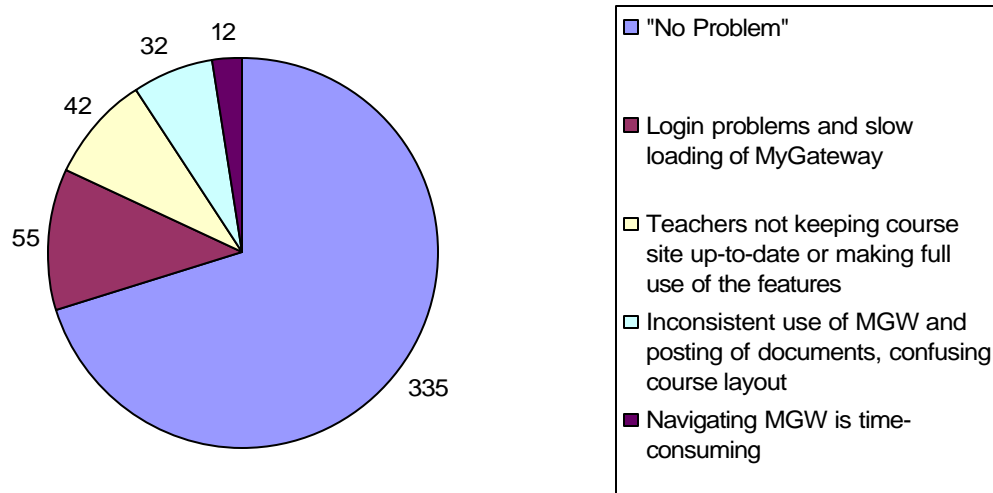


Figure 5: Problems using MyGateway

Problems, in their own words

- *Only problem I have using MyGateway is not all teachers use it correctly. Most post assignments and all information [in the same place] instead of the appropriate location.*
- *Feel MyGateway is under used by most teachers. Would like more online class work.*
- *...Ex., one uses communication features; another uses it for lecture notes and assignments; while, a third doesn't use MyGateway at all.*
- *[Internet Service Provider or the MyGateway system] has gone down in the middle of taking online quizzes.*
- *Busy signals when dialing in (sometimes have to dial 5+ times)*
- *I think that the instructor should be informed to use MyGateway grade book...it helps you know where you stand.*

Ideas for Improvement

Students provided suggestions for improvement as they commented about the benefits and problems they had experienced. Improvement ideas, overall, centered on **increasing use of MyGateway by instructors** (n= 42) for both groups. Another theme voiced by students in both *High* and *Low* use classes was “inconsistent or inappropriate use of MyGateway” by their instructors (N=32). Consistent use of MyGateway features, how best to organize course documents, and the essential nature of the grade book – all were mentioned by multiple students. In addition:

- *Have assignments we can actually do [online], practice test or quizzes.*
- *I think the instructor should be informed to use MyGateway grade book...*
- *The MyGateway system is beneficial to me if the faculty use it consistently. It get on my nerves when they say they are going to post something...and it takes them a week to do it.*

Several students commented that in one way or another **MyGateway helped organize their learning efforts**. Perhaps a MyGateway users' guide should include advice for helping students and faculty organize materials and assess priorities. Following are representative comments:

- *School matters remain separate and more organized.*
- *Keeping track of assignments/ announcements' changes in the syllabus.*
- *Accessing chapter tests...helps you understand the course information.*

Several students suggested that a real plus to them was that **MyGateway increased feeling of connection** to other students, their teachers, and campus activities/resources in general (N=26) – this was particularly important to online and remotely-located students where physical access to campus was limited or impossible.

- *Easy access to what is happening at UMSL. Being an evening student I don't know how I would survive on campus without it.*
- *It helps to connect people.*

The following are statements as to how use of MyGateway supported learning for respondents. The most often mentioned learning supports included 24x7 accesses to course materials, use of groups, discussion board, file exchange, and grade book. The importance of determining standard instructional practices related to use of the course management system was stated repeatedly in comments of students.

- *I can check course announcements, syllabus, assignments, professor email, students' email, and grades from anywhere with Internet including work and home and while traveling.*

- *This class set up group discussion board for our projects and it has helped us stay connected.*
- *The features I use most are email, group file exchange and retrieving information. I found that it was a great help for me in all my courses.*
- *MyGateway allowed me to stay on track if I missed a class.*
- *This was the most MyGateway-involved class I've taken, and it really enhanced class participation.*

Impact of Online Materials and Learning Activities

Faculty and students at UM-St. Louis have made significant strides toward incorporating MyGateway into the learning process. The use of MyGateway is leading to changes in how students and instructors define their respective roles in the classroom, and online learning components offered via MyGateway are exerting a positive influence on students' perceptions. Following are several implications drawn from the current data.

Academics: Perception and Behavior

- Knowing their grades and current standing leads students to modify their study habits—the ready availability of course related materials on MyGateway allow students to follow through on these changes at their own pace.
- MyGateway is increasingly characterized as a learning aid, making education accessible, convenient, and flexible. It enhances communication and helps students track their individual progress.
- MyGateway creates a sense of belonging across the campus. Not only are students keeping up with events, programs and news, but they are coming to view themselves as part of a “learning community.”
- A few students consider class attendance “optional” with the availability of back-up class materials on MyGateway. We would expect this trend to continue as instructors offer key resources online. This signals the beginning of a shift in what students and faculty perceive to be the relevance of face-to-face interaction, and offers an opportunity for instructors to rethink the structure of classroom interaction.

Technology in the Classroom

- Deliberate and consistent use of MyGateway and better communication concerning how MyGateway supports learning would allay perceptions that MyGateway is an add-on to the course requirements; creating more work without learning pay-offs. Students articulated their concern in terms of ‘time loss’ as, *“Mandatory use was frustrating due to time constraints”* and *“[a problem is] the time I feel it takes away from the learning time.”*
- Successfully accessing online materials and campus computing resources – using computers at convenient times, logging on, staying connected, and downloading files -- all are important to the learning process. There are still students without the necessary computing capabilities, hardware, or personal computing skills, although the number of such students is steadily decreasing.
- There are students who are critical of MyGateway and say that professors are too dependent on MyGateway, too lazy to teach. A representative comment is *“Some courses relied too heavily on information posted instead of teaching the material.”* There are other students who state a preference for face-to-face instruction or don't think the course, as designed, works well online.
- Classrooms have changed. Internet-based, asynchronous learning activities to be completed outside the classroom are becoming the norm. Students self-report *more time* spent on course materials and activities when MyGateway is used *more intensely and often* in their classes, for the past several semesters.

Recommendations

Analysis of the data has exposed several levels of responsibility for increasing the efficiency of the course management system and for ensuring greater student satisfaction and success. Orientation materials and technical support guidelines must be updated to reflect the evolving nature of the Internet and newly available technologies, and be made available to both faculty and students (e.g., wireless zones and instructions for configuring laptops).

In addition, the positive effects of using MyGateway, as increasingly substantiated by our students, might be the topic for curricular discussions in Departments and Colleges at this University. The unique requirements of disciplines could be factored into the specific recommendations for MyGateway integration into courses.

Student Support Services Suggested

Knowing the technological requirements of a course, as well as how to obtain assistance when problems occur, are important to students' success. Preparing additional help documents and involving instructors in distributing a basic introduction to MyGateway or pointing their students to web-based assistance seem advisable. How to use wireless connections around campus was a need appearing for the first time in this study.

The current data reveals that students are expected to access, and print, a variety of documents for use in their courses. Many dial-up users are experiencing slow or interrupted access to MyGateway course sites. This seems to be particularly problematic for dial-up users accessing large files, or who have limited periods of inactivity from their private Internet service providers. Instructors need to be cognizant of not only the educational value of materials and activities in an on-line environment, but also the technological requirements that enable all students to participate actively in the on-line environment.

There were suggestions for system improvements from survey respondents:

- Quick links to the most frequently used features (e.g., grade book)
- Ability to attach more than one file to a Discussion Board posting
- Option to receive automated email notification when instructor posts an announcement in MyGateway.

Although the MyGateway system is currently in the process of being upgraded and enhanced for the Fall 2005 semester, it would be relevant to provide students, faculty, and staff a specific mechanism for providing usability feedback throughout the year.

Accessing MyGateway and other technical resources have become increasingly vital to student success and satisfaction with UM-St. Louis. Issues such as low bandwidth, Internet connection stability, inconvenient or no computer access, and technical expertise are creating a "have-have not" disparity among our students. It will become increasingly important for administrators to deal with equalizing the access among students. Faculty must factor in the lowest common denominator for online instructional components. Further, to insure students are adequately prepared to take advantage of the possibilities offered by an increased level of online learning activities, key information and skills must be available:

- Computer literacy courses to insure student ability to participate fully in the online learning environment,
- Publication of minimum computer configurations to enable access to online campus resources,
- More detailed course descriptions in the campus bulletin and course schedule to inform students of required technology and skills necessary for online learning activities.

Instructional Improvements Suggested

Students continue to request most or all MyGateway features be used in all their courses. Depending on the subject matter, integrating more of the MyGateway components would help increase instructor-student interaction and increased interaction among students, according to this and previous student surveys.

Instructional improvements gleaned from the survey analysis include the following:

- Syllabi and assignments should be available on the individual course web sites. Further, the syllabus ought to include specific expectations for students' online participation, guidelines to how an instructor intends to use MyGateway, as well as details for accessing technical assistance. A syllabus template is posted for faculty review on the Center for Teaching and Learning web page, <http://www.umsl.edu/ctl>.
- Descriptions for effectively and efficiently using discussion boards, quizzes, and virtual chats seem advisable to revise and/or publicize, in light of students' questions about their use.
- Departments might set standards for the course management system: what features will be consistently utilized and create student support documents that specify minimum computing capabilities and overall technology learning objectives. An excellent example is the Department of Communication Online Course Handbook. See <http://www.umsl.edu/divisions/artscience/communication/files/onhand.pdf>. Specific topics for departmental handbooks might include: expectations for online work, suggestions for how-to-learn effectively online, and descriptions of the supplemental materials and online resources available for individual students and new faculty wishing to incorporate technology and the Internet in their teaching.
- Providing basic online student services to facilitate communication, advising, enrollment and business transactions with the university are in progress. Gathering input as to what, where, and how additional support services could be developed with existing technology resources is the logical next step in meeting the challenge of no new or decreased funds.

Answers to the *ideal blending of face to face and online learning* question will impact the selection of technology. The next generation of technologies, such as hand-held computing devices and cellular internet connectivity, has already become a reality for many. Technology review teams could include faculty and student representatives, in addition to the technicians. Pilot studies contributing to the "scholarship of teaching and learning" are worthwhile investigative activities for both technology administrators and academicians.

Campus Goals

Student perceptions, attitudes, and behaviors documented in this survey, and the consistency of these findings over the previous four years, highlights MyGateway's contribution to the strategic campus goals of:

- **Recruitment**
- **Retention**
- **Student engagement**
- **Community building**

Implications and recommendations drawn from the data will continue to guide technology planning and support provided by Information Technology Services and UM-St. Louis academic administration. Future support and training will focus on those things that will help improve our students' learning outcomes and satisfaction. In addition, fuller distance delivery of some programs will enhance our institution's ability to meet the needs of our broad constituency.

Appendix A
University of Missouri-St. Louis
WS 2005 MyGateway Course Survey

University of Missouri-St. Louis
MyGateway WS2005 Course Survey

Course name and number: _____

Name of Instructor _____

Please complete the survey based on your experiences with *MyGateway*, the web course management tool. Most of the questions ask for one response (based on your priority or primary experience). Your responses are **anonymous**. Your participation is completely voluntary, and you are free to refuse to answer any questions. UM-St. Louis Information Technology Services thanks you for your participation. Your input will be useful in planning student support and developing new technologies.

1. My **primary** location for accessing the Internet for educational purposes is (*mark only one*)
 - A. On Campus (labs, library, MSC, and/or classrooms)
 - B. Student Housing (Dorms, Meadows, Honors College)
 - C. At Home
 - D. At Work
 - E. Other

2. What kind of computer do you use at home?
 - A. 486 or older PC
 - B. Pentium or newer PC
 - C. Mac
 - D. Other
 - E. None

3. How long do you usually wait for a computer at UMSL computer labs?
 - A. 0-5 minutes
 - B. 6-15 minutes
 - C. 16-30 minutes
 - D. More than 30 minutes
 - E. I don't use UMSL computer labs

4. If you connect to the Internet from off-campus, what type of Internet connection do you have?
 - A. Dial-up modem
 - B. DSL
 - C. Cable Modem
 - D. Work LAN

5. Which of the following statements best characterizes the way you used (accessed) MyGateway in this class?
 - A. I used (accessed) MyGateway every day for this class
 - B. I used (accessed) MyGateway 3-4 times a week for this class
 - C. I used (accessed) MyGateway 1-2 times a week for this class
 - D. I used (accessed) MyGateway once a week or less for this class

6. Which of the following statements best characterizes the way your instructor used MyGateway in this class (for posting grades, announcements, documents, and/or communicating with the class)?
 - A. My instructor used MyGateway just about every day
 - B. My instructor used MyGateway 3-4 days a week
 - C. My instructor used MyGateway 1-2 days a week
 - D. My instructor used MyGateway less than once a week

7. What are the most common features of MyGateway used in this class (check all that apply)?

- A. Announcements and email
- B. Discussion Forums
- C. Groups
- D. Text Documents (Syllabus), PowerPoint Presentations, and Web pages (lecture notes, readings, etc.)
- E. Multimedia resources (movies, images, and sounds)
- F. Quizzes, Exams and Tests
- G. Grade Book
- H. Calendar and Tasks
- I. Chat and the virtual classroom
- J. Centra (real-time internet and audio connection, and class presentation recording)

8. How much time did you spend online each week for this course?

Less than 1 hour	1-3 hours	3-6 hours	6-10 hours	More than 10 hours
A	B	C	D	E

9. Using MyGateway in this class made me more likely to seek clarification when I did not understand something.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

10. Using MyGateway in this class made me more likely to review lecture notes to gain clarification.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

11. Using MyGateway in this class made it more likely for me to receive instructor comments on assignments quickly.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

12. Using MyGateway in this class made me more likely to communicate with other students taking this course.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

13. Using MyGateway in this class made me more likely to work in online groups.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

14. Using MyGateway in this class made it more likely for me to work in face-to-face groups.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

15. Using MyGateway in this class made it more likely I would spend time studying.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

16. Using MyGateway in this class made it more likely for me to communicate with my instructor.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

17. Using MyGateway in this class made me more likely to receive feedback on quizzes and exams quickly.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

18. The instructor encouraged us to use MyGateway in this course.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

19. Using MyGateway in this class helped me do better (learn more).

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

20. I am very satisfied with this course because it used MyGateway.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

21. Please provide any additional comments you might have on the way MyGateway was used in this course:

Now we would like you to respond to the following questions and statements concerning MyGateway use here at UMSL, in general:

22. How many courses are you taking this semester?

A: 1 B: 2 C: 3 D: 4 E: 5 F: 6 G: 7 or more

23. How many of the courses you are taking this semester use MyGateway?

A: 1 B: 2 C: 3 D: 4 E: 5 F: 6 G: 7 or more

24. The use of online quizzes and tutorials in MyGateway help me learn course content.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

25. Being able to access course grades via MyGateway helps me stay engaged with my course work.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

26. The online discussions in MyGateway make me think more about course topics.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

27. Using MyGateway makes it more likely for me to complete course assignments.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

28. It takes more effort to complete a course that uses online resources like MyGateway.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

29. I would like to have MyGateway used in all my courses.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

30. I am more likely to take another course at UMSL because it uses MyGateway.

A	B	C	D	E	F	G	H
Strongly Agree						Strongly Disagree	Does not Apply

31. I am more likely to complete my degree at UMSL because of the advantages of using MyGateway in my courses.

A	B	C	D	E	F	G	H
Strongly						Strongly	Does not
Agree						Disagree	Apply

We are interested in your specific experiences and suggestions for improving the use of "MyGateway" at UM-St. Louis. Please answer Questions 32 and 33 with as much detail as you want. Use additional paper if needed.

32. The personal benefits to me in using MyGateway are:

33. Did you have any problems using MyGateway? *(If you had problems, please describe them briefly).*

Thank you for your responses!
Robert Keel and Dr. Cheryl Bielema
MYGATEWAY Support
Information Technology Services