Northland Pioneer College

STRONG MINDS. STRONG COMMUNITIES.

Technology Survey

Spring 2013

Prepared by GeoDriven, LLC as part of the EAGLE project evaluation

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1. Introduction

In fall 2010 Northland Pioneer College was awarded a U.S. Department of Education grant under Title III, part A of NASNTI Program to implement the Equitable Access to Gainful Learning Experiences (EAGLE) project (award # P031X100002). Part of the Evaluation Plan of the grant is to administer and analyze annual student, faculty, and staff surveys to assess the use of technology on NPC campuses and centers and to track the EAGLE project effectiveness.

The audience-specific surveys focused primarily on

- satisfaction with technology at NPC, specifically with internet connection reliability and speed, availability of "smart" classrooms, and communication technology; and
- usage of technology for school, work, instruction, research and personal purposes.

2. Methods

The three individually fielded **Technology Surveys** were administered via a web-based survey tool to three distinctive audiences from May 7th through June 4th, 2013. The survey instruments consisted of multiple choice and scale-based questions. The survey populations were defined as:

- Students: All NPC students enrolled in at least one credit-bearing class in spring 2013
- Faculty: All faculty teaching at least one course in spring 2013
- Staff: All staff employed at NPC as of May 7, 2013

The same instruments to the three populations defined in the same way were fielded in spring 2011 and 2012.

The following table describes the population and sample size for each separate survey as well as the associated response rates and confidence intervals[1] at 95 percent confidence level[2].

	Students	Faculty	Staff
Population Size	4,981	221	135
Sample size	106	33	89
Response rate	2.0%	14.9%	65.9%
Confidence interval	+/- 9.6 %	+/- 15.8%	+/- 6.1%

Response rates of the 2013 surveys were slightly lower than those in 2012, likely due to administration of the instruments later in the semester.

[1] The confidence interval describes the probable difference between surveying everyone in the population versus surveying a sample drawn from this population. For example, if 80% of the students sampled indicated satisfaction in a specific content area, the actual (true) population parameter falls in the range of 71.6% - 88.4% (80% +/- 8.4%) satisfaction.

[2] The confidence level describes how sure we can be about the population parameter falling within the confidence interval range. Continuing with the above mentioned example, we can be 95 percent sure that the actual (true) population parameter falls in the range of 71.6% - 88.4% (80% +/- 8.4%).

Major changes in responses over time are noted to provide additional context. Two-sample t-test was used to compare means or percentages to identify statistically significant differences.

3. Findings

3.1. Dependence on Technology (students only)

When the technology surveys started to track students' dependence on technology in 2011, respondents indicated a greater dependence on computer labs than ability to connect their own devices to the NPC network. That has changed in the 2013 administration of the survey and for the first time students indicated a greater need to connect their own laptops than to use NPC's equipment.

Table 1: Student Dependence on Technology

	1-5 scale/ Not at all - Very much	
Students	**Mean**	**St. Deviation**
Dependence on connecting laptop to the internet on NPC campus.	3.5	1.7
Dependence on using NPC computers (in the labs or library) to study, complete projects, and prepare for classes.	3.1	1.5

3.2. Satisfaction with Technology

In all categories students, faculty, and staff reported above average satisfaction (on a scale 1 to 5, with 1 being not satisfied at all and 5 being satisfied very much, a score below 3 can be considered below average). In general, students were more satisfied with all surveyed dimensions of technology than faculty or staff. The 2013 survey did not reveal any notable changes in the satisfaction levels, except for faculty reporting slightly lower satisfaction with smart classroom availability than they did in 2012. This might suggest faculty's greater expectations for smart classroom availability as a result of their greater awareness of the EAGLE project.

Table 2: Satisfaction with Internet Connection

Satisfaction*	**Students**		**Faculty**		**Staff**	
	Mean	**St. Dev.**	**Mean**	**St. Dev.**	**Mean**	**St. Dev.**
Speed of the internet connection (affecting the time it takes to download/upload files and ability to stream video online)	4.2	0.9	3.6	1.1	4.1	1
Reliability of the internet connection (lack of down-time due to lost connectivity)	4.4	0.8	3.5	1.1	3.8	1
Availability of "smart" or model classrooms (classrooms with up-to-date technology, including projectors, computers, etc.)	4	1.1	3.3	1.2		

Communication technology (video and teleconferencing, chat, voicemail etc.)		3.2	1.1	3.9	1.1

*1-5 scale/ Not at all - Very much

Small sample sizes make assessment of satisfaction by location unreliable.

In the 2012 survey, staff in Snowflake/Taylor, Show Low, and at the Hopi and Springerville-Eagar Centers reported significant improvements in satisfaction with the internet connection as compared to the 2011 survey. The 2013 survey did not bring changes in the distribution of the satisfaction levels by location. As already mentioned, caution should be exercised with these conclusions due to sample size issues.

Table 3: Satisfaction with the Internet Connection Speed by Staff Location

Speed of the Internet Connection						
Staff by Location	**(1)Very Dissatisfied**	**(2)**	**(3)**	**(4)**	**(5)Very Satisfied**	**Respondent Counts**
Winslow		10%	30%	40%	20%	10
Holbrook		9%	9%	26%	57%	35
Snowflake/Taylor		14%	21%	29%	36%	14
Show Low		16%	11%	42%	32%	19
Springerville-Eagar Center				100%		1
Hopi Center				50%	50%	2
St. Johns				100%		1
Kayenta				50%	50%	2
The Whiteriver Center		33%		33%	33%	3
Total Staff						87

3.3. Use of Technology

In the 2012 survey, both faculty and staff reported an increased use of technology. A significantly greater proportion of faculty reported using digital presentations, course website, plagiarism detection software, and streaming audio/video. Staff was using every surveyed technology more in 2012 than in 2011. The 2013 survey brought about a few sizeable shifts in using technology. Both students and faculty reported significant increases in using digital video. In addition, faculty increased the use of digital audio and plagiarism detection for instruction and digital presentations, digital audio and video, and videoconferencing for research.

Table 4: Use of Technology

Type of Technology	**School (Students only)**	**Instruction (Faculty only)**	**Research (Faculty only)**	**Work (Staff only)**
Digital presentations	50%	73%	6%	60%
Digital image manipulation software	16%	18%	6%	27%

Digital audio	35%	39%	18%	43%
Digital video	41%	52%	18%	48%
Streaming audio/video	49%	61%	18%	54%
Course website	47%	58%	6%	47%
Smart classrooms (model classrooms	55%	36%	0%	N/A
Video conferencing	50%	30%	9%	69%
Projector	N/A	64%	3%	58%
Clickers	N/A	6%	0%	N/A
Plagiarism detection	N/A	27%	0	N/A

Table 5: Personal Use of Technology

Personal Use			
Type of Technology	**Students**	**Faculty**	**Staff**
Digital presentations	50%	24%	25%
Digital image manipulation software	32%	24%	42%
Digital audio	39%	18%	28%
Digital video	38%	18%	30%
Streaming audio/video	44%	33%	35%
Course website	5%	9%	14%
Smart classrooms (model classrooms rich in instructional	2%	0%	N/A
Video conferencing	13%	9%	12%
Projector	N/A	9%	6%
Clickers	N/A	0%	N/A
Plagiarism detection	N/A	0%	N/A

Twenty four percent of responding faculty members indicated teaching at least one online class and 33 percent teaching a hybrid class (a significant increase from the 2012 survey of 13 percent). Seventy six percent of the faculty reported their classes required a significant use of technology.

Table 6: Teaching with Technology

Faculty Responses		
	N	**Percent of Cases**
At least one of my classes is taught completely online.	8	24%
At least one of my classes can be considered a hybrid class (a combination of in-person and online instruction).	11	33%
My in-person classes require a significant use of classroom technology (computers, projectors, access to the internet, etc.)	25	76%
Total		100

4. Appendix A: Sample Demographics

4.1. Students

Almost one third of student-respondents reported taking classes mostly in Show Low. Fifty eight percent of responding students plan to earn associate degrees and 23 percent intends to transfer to a university. More than half of those who responded attend NPC part time.

Table 7: Primary Location of Classes

Primary location of classes		
	Frequency	Percent
Show Low	32	31
Holbrook	13	13
Online	13	13
Winslow	13	13
Snowflake/Taylor	7	7
Hopi Center	8	8
Kayenta	4	4
Springerville-Eagar Center	7	7
St. Johns Center	1	1
The Whiteriver Center	4	4
Total	102	100

Table 8: Primary Goal for Taking Classes

Select your primary, most immediate goal for taking classes at NPC.		
	Frequency	Percent
To earn an associate's degree	59	58
To transfer to a university	23	23
To earn a certificate	7	7
For professional improvement	9	9
For personal enrichment	4	4
Total	102	100

Table 9: Full-time or Part-time Attendance

Full-time/Part-time		
	Frequency	Percent
Full-time	44	43
Part-time	58	57
Total	102	100

4.2. Faculty

Nearly half of the faculty-respondents teach classes in Show Low and more than a quarter in Holbrook. Because faculty may teach multiple classes in (or from) a different location, the total number of responses in table 10 exceeds the number of respondents. More than three quarters of faculty who responded to the survey have been teaching at NPC for at least five years and nearly 80 percent were full-time faculty.

Table 10: Location of Classes Taught by Faculty

	Responses		
Faculty/ Location	N	Percent	Percent of Cases
Winslow	4	8%	12%
Holbrook	9	18%	27%
Snowflake/Taylor	4	8%	12%
Show Low	16	33%	49%
Springerville-Eagar Center	4	8%	12%
Hopi Center	2	4%	6%
St. Johns Center	5	10%	15%
Online	4	8%	12%
Kayenta	1	2%	3%
Total	49	100%	

Table 11: Years of Teaching at NPC

Faculty: Years of teaching		
	Frequency	Percent
Less than 5 years	8	24
Between 5 and 10 years	13	39
Between 10 and 15 years	8	24
More than 15 years	4	12
Total	33	100

Table 12: Full-time/Adjunct Status of Faculty

Faculty: Full-time/Adjunct		
	Frequency	Percent
Full-time	26	79
Part-time	7	21
Total	33	100

4.3. Staff

Most of the staff-respondents work from Holbrook, Show Low, and Snowflake/Taylor. Less than ten percent of them reported being employed part-time and more than half of them have been working at NPC at least five years.

Table 13: Staff Location

Staff: Primary location		
	Frequency	Percent
Holbrook	36	40
Show Low	20	23
Snowflake/Taylor	14	16
Winslow	10	11
Hopi Center	2	2
Springerville-Eagar Center	1	1
Kayenta	2	2
St. Johns Center	1	1
The Whiteriver Center	3	3
Total	89	100

Table 14: Full-time/Part-time Status of Staff

Staff: Full-time/Part-time		
	Frequency	Percent
Full-time	82	92
Part-time	7	8
Total	89	100

Table 15: Length of Staff Employment at NPC

Staff: Employment length		
	Frequency	Percent
Less than 5 years	40	45
Between 5 and 10 years	19	21
Between 10 and 15 years	15	17
More than 15 years	15	17
Total	89	100