

Preliminary Findings

Polk State College

Innov8 Academy

The Innov8 Academy

Findings & Conclusions – Part 1: Underlying Need & Program Design

Developing and implementing progressive institutional mechanisms to scaffold/facilitate faculty innovations.

1.1 *Technology Utilization Gap*

The initial technology-utilization indicators, based on the Academy’s inaugural faculty cohort’s self-reported values on the program application measure, show large differences between traditional and non-traditional areas of technology utilization, even within the existing learning management (LMS=D2L) application (range=1-5). This measure served as needs assessment data that contributed to the design of the Innov8 program experience.

Domains of Self-Rated Technology Tool Utilization		Pre-Academy Mean (Range 1-5)	Standardized Usage Score
LMS High Utilization Areas	D2L Content	4.20	80.0%
	D2L Grades	4.15	78.8%
	D2L Dropbox	3.50	62.5%
	D2L Quiz	3.15	53.8%
LMS Low Utilization Areas	D2L Checklist	1.25	6.3%
	D2L IA Tool	1.05	1.3%
	D2L Competence	1.65	16.3%
	D2L Rubric	1.55	13.8%
Mixed Interest, Medium-Low Usage Other Tools	Tablets	2.00	25.0%
	Cell Phones	2.45	36.3%
	Plagiarism	2.35	33.8%
Medium-High Interest Low Usage Other Tools	Clickers	1.20	5.0%
	Digital Stories	1.10	2.5%
	QM Rubric	1.75	18.8%
	Atomic Learning	1.35	8.8%
Lecture Capture	Tegrity	1.70	17.5%
Traditional Applications	Lectern Tools	4.30	82.5%
	MS Office	5.00	100.0%
	Traditional Technology	5.00	100.0%

1.2 *Technology Utilization Interest*

Participating faculty indicated strong interest across all areas of technology application despite the usage variances shown above. All Interest scores were above the 55% threshold, 67% were at or above the 80% margin. The spread of data clearly showed the need for both further in-depth training and introductory steps to learn new applications.

Findings & Conclusions – Part 2: Technology Skills

2.1 Faculty technology competencies were measured using the Innovation Component Configuration Map (ICCM) to assess faculty perceptions of technology skills, comparing individual self-rated competency perceptions at the onset of the project (T1) with post-academy ratings (5-point Likert Scale). Assessment results show significant increases (% Gain) across almost all (12 of the 13) assessed implementation domains.

	T1	T2	% Gain	T-Value	Prob T
I select appropriate technology tools (resources).	3.35	3.70	10.45%	-2.52	0.0210
I have skills related to the use of various productivity and management software.	3.04	3.45	13.49%	-2.67	0.0153
I have skills related to the use of course management tools for Web-based learning.	4.48	4.70	4.91%	-0.89	0.3828
I design developmentally appropriate learning opportunities that apply technology-enhanced instrumentation.	3.43	3.85	12.24%	-2.37	0.0284
I apply current research on teaching and learning with technology when planning learning environments.	2.65	3.55	33.96%	-4.06	0.0007
I identify and locate technology resources and evaluate them for accuracy and suitability.	2.65	3.80	43.40%	-4.94	0.0001
I identify and apply instructional design principles associated with the development of technology	3.09	4.10	32.69%	-4.33	0.0004
I collaborate in planning and designing technology based learning environments.	2.78	3.65	31.29%	-3.33	0.0035
I integrate technology-enhanced experiences that support use of distance learning environments.	3.30	3.80	15.15%	-2.40	0.0265
I support curriculum that incorporates integration of technology skills to enhance student learning.	3.91	4.25	8.70%	-2.13	0.0467
I integrate technology to address broader and multiple perspectives in the content area	3.17	3.85	21.45%	-3.00	0.0074
I integrate technology to develop students' higher order skills and creativity.	2.48	3.25	31.05%	-2.74	0.0130
I apply technology to assess student learning of subject matter using a variety of assessment technology.	3.30	4.20	27.27%	-3.69	0.0016
I apply technology to assess instructional practices and maximize student learning.	2.78	4.10	47.48%	-4.66	0.0002

Findings & Conclusions – Part 3: Technology Utilization

3.1 Faculty technology utilization scores were established as part of the pre-academy assessment using a 5-point Likert scale reflecting the self-reported use of various technology components in the online (D2L) and traditional teaching environments at that point in time. Technology utilization gains have been established as a result of the Innov8-based impact on the post-academy faculty responses using the same instrument. The pre-post measure comparison in the table below shows significant utilization improvements across most LMS tools and three additional support applications.

Category	Technology Type	Mean T1	Mean T2	% Change	T Value	Prob T
High-Usage LMS Tools	D2L Content	4.20	5.00	19.0%	-2.43	0.0252
	D2L Grades	4.15	4.80	15.7%	-2.10	0.0497
	D2L Dropbox	3.50	4.40	25.7%	-2.71	0.0138
	D2L Quiz	3.15	3.10	-1.6%	0.18	0.8628
Low-Usage LMS Tools	D2L Checklist	1.25	1.85	48.0%	-2.04	0.0553
	D2L IA Tool	1.05	1.55	47.6%	-2.36	0.0289
	D2L Competence	1.65	2.25	36.4%	-2.35	0.0298
	D2L Rubric	1.55	2.60	67.7%	-2.30	0.0327
Medium-Usage Technologies	Tablets	2.00	2.75	37.5%	-1.68	0.1094
	Cell Phones	2.45	2.45	0.0%	0.00	1.0000
	Plagiarism Tool	2.35	3.25	38.3%	-2.44	0.0248
Low-Usage Technologies	Clickers	1.20	1.10	-8.3%	1.00	0.3299
	QM Rubric	1.75	2.55	45.7%	-1.96	0.0646
	Digital Stories	1.10	1.15	4.5%	-0.44	0.6663
	Atomic Learning	1.35	2.55	88.9%	-5.08	0.0001
Lecture Capture	Tegrity	1.70	2.30	35.3%	-2.56	0.0190
Common Applications	Lectern Tools	4.30	4.40	2.3%	-0.29	0.7715
	MS Office	5.00	5.00	0.0%	.	.
	Traditional Technologies	5.00	5.00	0.0%	.	.

Findings & Conclusions – Part 4: Faculty Confidence

4.1 Faculty's confidence in the use of technologies was established using two sets of measures, the Computer Technology Integration survey (CTIS) and a somewhat more tool-specific confidence self-rating at the onset of the Academy. The 21 items of the 5-point Likert-scale CTIS instrument produced three factors, all of which showed significantly higher confidence ratings after the completion of the Academy (Table 4.1a).

Similarly, 10 of the 17 tool-specific confidence ratings showed significant gains (see Table 4.1b), and additional three items showed meaningful gains (not significant due to larger variances).

Table 4.1a

CTIS Construct	Mean T1	Mean T2	T Value	Prob T
Confidence in Ability to Use & Support the Appropriate Technology for Instruction	3.90	4.44	-4.38	0.0003
Confidence in Ability to Overcome Barriers & Coping with Obstacles/Constraints	4.20	4.50	-2.88	0.0095
Confidence in Motivating Support & Responsiveness to Student Technology Related Needs	4.00	4.30	-2.67	0.0152

Table 4.1b

Confidence Area	Variable Description	Mean T1	Mean T2	% Change	T Value	Prob T
Classroom and Supplemental Tools	Confidence with Student Response Systems	1.50	1.75	16.7%	-2.08	0.0555
	Confidence with SmartBoards	1.55	1.94	25.0%	-3.16	0.0064
	Confidence with Synchronous Software Options	1.40	1.94	38.4%	-3.09	0.0074
	Confidence with Multimedia Object Creation	1.20	1.94	61.5%	-4.57	0.0004
	Confidence with Atomic Learning	1.55	2.50	61.3%	-4.90	0.0002
Online Learning Environment	Confidence with LMS/D2L Tools	2.15	2.94	36.6%	-4.57	0.0004
	Confidence with QM Standards & Course Design	1.70	2.33	37.3%	-2.65	0.0169
	Confidence with SMART Lectern	1.70	2.06	21.3%	-1.46	0.1639
Social Media Tools	Confidence with iPad/Tablets/Cell Phones	2.25	2.50	11.1%	-2.61	0.0197
	Confidence with Web 2.0	1.85	1.75	-5.4%	0.62	0.5445
	Confidence with Digital Cameras	1.95	2.06	5.8%	-0.68	0.5090
Challenging Applications	Confidence with Plagiarism Tools	1.80	2.69	49.3%	-3.95	0.0013
	Confidence with Lecture Capture Tools	1.35	1.94	43.5%	-3.58	0.0028
	Confidence with Digital Storytelling Tools	1.10	1.75	59.1%	-3.48	0.0034
General Computing Skills	Confidence with Computer Basics	2.90	2.94	1.3%	-0.56	0.5805
	Confidence with Laptops/Desktop Computers	2.85	2.81	-1.3%	0	1
	Confidence with Microsoft Office	2.50	2.81	12.5%	-2.09	0.0544