
NSSE 2015 Topical Module

Learning with Technology

Wayne State College

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About This Topical Module

Developed in partnership with EDUCAUSE, these questions examine the role of technology in student learning, focusing on usage, contribution to learning, and perceptions of institutional support. This module complements questions on the core survey about learning with peers, quality of interactions with others, and institutional emphasis on academic support. Complementary FSSE set available.

Comparison Group

This section summarizes how this module's comparison group was identified, including selection criteria and whether the default option was taken. This is followed by the resulting list of institutions represented in the 'Tech-2014&15 Public' column of this report.

Group label	Tech-2014&15 Public
Date submitted	5/28/15
How was this comparison group constructed?	Your institution customized this group by selecting institutional characteristics as follows: Sector (Pub)
Group description	"Learning with Technology" Module Participants - All Public (Includes current (2015) and prior (2014)-year NSSE participants)

Tech-2014&15 Public (N=36)

Binghamton University (State University of New York) (Binghamton, NY)*	University of Southern Maine (Portland, ME)*
California State University-Dominguez Hills (Carson, CA)	University of Toledo (Toledo, OH)
California State University, Fresno (Fresno, CA)	University of Wisconsin-Stout (Menomonie, WI)*
California State University, Northridge (Northridge, CA)	Valley City State University (Valley City, ND)
Central Connecticut State University (New Britain, CT)	Washburn University (Topeka, KS)*
Central Michigan University (Mount Pleasant, MI)	William Paterson University of New Jersey (Wayne, NJ)*
Citadel, The Military College of South Carolina, The (Charleston, SC)	
Colorado State University-Pueblo (Pueblo, CO)*	
CUNY New York City College of Technology (Brooklyn, NY)	
CUNY Queens College (Flushing, NY)*	
Eastern New Mexico University (Portales, NM)	
Indiana University East (Richmond, IN)	
Jackson State University (Jackson, MS)	
Jacksonville State University (Jacksonville, AL)	
Keene State College (Keene, NH)*	
Lake Superior State University (Sault Ste Marie, MI)*	
Morrisville State College (Morrisville, NY)*	
North Carolina Central University (Durham, NC)*	
Old Dominion University (Norfolk, VA)	
Ramapo College of New Jersey (Mahwah, NJ)*	
Southern University and A&M College (Baton Rouge, LA)	
Texas A&M University - Central Texas (Killeen, TX)	
University of Arkansas at Monticello (Monticello, AR)*	
University of Houston (Houston, TX)	
University of Kentucky (Lexington, KY)	
University of Maine at Fort Kent (Fort Kent, ME)*	
University of Maryland-Eastern Shore (Princess Anne, MD)	
University of Minnesota-Crookston (Crookston, MN)*	
University of New Hampshire (Durham, NH)	
University of Puerto Rico in Ponce (Ponce, PR)*	

First-Year Students

Item wording or description	Variable name	Values ^c	Response options	Frequency Distributions ^a				Statistical Comparisons ^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	Effect size ^d
				Count	%	Count	%	Mean	Mean	
1. During the current school year, how much has your use of technology contributed to the following:										
a. Your understanding of course materials and ideas	TEC01a	1	Very little	6	4	216	3	3.2	3.3	-.13
		2	Some	29	17	1,238	14			
		3	Quite a bit	64	40	3,571	39			
		4	Very much	59	40	3,997	45			
		Total		158	100	9,022	100			
b. Demonstrating your understanding of course content	TEC01b	1	Very little	6	4	258	3	3.0	3.2 **	-.24
		2	Some	42	25	1,432	16			
		3	Quite a bit	62	40	3,683	41			
		4	Very much	46	31	3,580	40			
		Total		156	100	8,953	100			
c. Learning, studying, or completing coursework on your own	TEC01c	1	Very little	3	2	154	2	3.3	3.4	-.09
		2	Some	17	10	937	10			
		3	Quite a bit	63	40	3,072	34			
		4	Very much	75	48	4,810	54			
		Total		158	100	8,973	100			
d. Learning, studying, or completing coursework with other students	TEC01d	1	Very little	17	11	838	10	2.8	2.9	-.12
		2	Some	42	26	2,064	23			
		3	Quite a bit	58	38	2,977	33			
		4	Very much	39	25	3,073	34			
		Total		156	100	8,952	100			
e. Distracting you from completing your coursework	TEC01e	1	Very little	18	11	1,021	12	2.6	2.7	-.10
		2	Some	58	38	2,925	33			
		3	Quite a bit	44	30	2,616	29			
		4	Very much	35	21	2,371	27			
		Total		155	100	8,933	100			
2. During the current school year, how much have your courses improved your understanding and use of technology?										
	TEC02	1	Very little	26	15	1,419	17	2.4	2.5	-.11
		2	Some	74	44	3,063	34			
		3	Quite a bit	39	27	2,910	32			
		4	Very much	18	14	1,437	17			
		Total		157	100	8,829	100			
3. During the current school year, about how often have you used the following technologies in your courses?										
a. Electronic textbooks	TEC03a	1	Never	122	76	3,110	31	1.4	2.2 ***	-.81
		2	Sometimes	23	14	2,807	31			
		3	Often	10	8	1,696	20			
		4	Very often	3	2	1,323	17			
		—	I don't know what this is	0	0	60	1			
		Total		158	100	8,996	100			
b. Online portfolios or e-portfolios	TEC03b	1	Never	84	55	4,182	45	1.6	1.8 **	-.21
		2	Sometimes	46	27	2,116	25			
		3	Often	15	11	1,059	12			
		4	Very often	4	2	592	7			
		—	I don't know what this is	8	5	1,015	11			
		Total		157	100	8,964	100			

*p<.05, **p<.01, ***p<.001 (2-tailed); Refer to the Endnotes page for a key to the triangle symbols.

First-Year Students

Item wording or description	Variable name	Values ^c	Response options	Frequency Distributions ^a				Statistical Comparisons ^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	
				Count	%	Count	%	Mean	Mean	Effect size ^d
c. Blogs	TEC03c	1	Never	116	72	4,715	52	1.3	1.7 ***	-0.43
		2	Sometimes	30	21	2,470	28			
		3	Often	7	5	1,072	12			
		4	Very often	1	1	555	7			
		—	I don't know what this is	2	1	93	1			
			Total	156	100	8,905	100			
d. Collaborative editing software (Wikis, Google Docs, etc.)	TEC03d	1	Never	65	40	2,109	24	1.9	2.4 ***	-0.43
		2	Sometimes	53	35	3,036	34			
		3	Often	26	17	2,131	24			
		4	Very often	11	7	1,565	17			
		—	I don't know what this is	1	1	94	1			
			Total	156	100	8,935	100			
e. Multimedia software (drawing, audio or video production, editing, etc.)	TEC03e	1	Never	106	66	4,447	48	1.5	1.8 ***	-0.38
		2	Sometimes	33	22	2,317	27			
		3	Often	13	9	1,281	15			
		4	Very often	3	2	788	9			
		—	I don't know what this is	1	1	119	1			
			Total	156	100	8,952	100			
f. Social networking (Facebook, Twitter, etc.)	TEC03f	1	Never	66	40	3,692	42	2.1	2.0	.01
		2	Sometimes	46	29	2,380	26			
		3	Often	19	14	1,349	15			
		4	Very often	26	16	1,443	16			
		—	I don't know what this is	1	1	66	1			
			Total	158	100	8,930	100			
g. Mobile computing (handheld devices such as smartphones, tablets, etc.)	TEC03g	1	Never	41	26	1,630	17	2.4	2.6 **	-0.23
		2	Sometimes	55	33	2,773	31			
		3	Often	27	19	2,094	24			
		4	Very often	35	22	2,441	28			
		—	I don't know what this is	0	0	34	0			
			Total	158	100	8,972	100			
4. During the current school year, about how often have you used technology to communicate with the following people?										
a. Students	TEC04a	1	Never	2	1	227	3	3.5	3.4	.11
		2	Sometimes	20	13	1,118	13			
		3	Often	34	22	2,194	25			
		4	Very often	101	64	5,455	59			
			Total	157	100	8,994	100			
		b. Academic advisors	TEC04b	1	Never	16	10			
2	Sometimes			58	37	2,990	33			
3	Often			49	32	2,395	27			
4	Very often			34	20	2,053	22			
	Total			157	100	8,975	100			
c. Faculty	TEC04c			1	Never	13	9	849	10	2.7
		2	Sometimes	57	36	2,763	32			
		3	Often	50	33	2,920	32			
		4	Very often	36	22	2,428	26			
			Total	156	100	8,960	100			

*p<.05, **p<.01, ***p<.001 (2-tailed); Refer to the Endnotes page for a key to the triangle symbols.

First-Year Students

Item wording or description	Variable name	Values ^c	Response options	Frequency Distributions ^a				Statistical Comparisons ^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	
				Count	%	Count	%	Mean	Mean	Effect size ^d
d. Student services staff (career services, student activities, housing, etc.)	TEC04d	1	Never	37	24	2,805	32	2.2	2.2	.03
		2	Sometimes	72	45	3,100	34			
		3	Often	27	18	1,568	18			
		4	Very often	21	13	1,470	16			
		Total		157	100	8,943	100			
e. Other administrative staff and offices (registrar, financial aid, etc.)	TEC04e	1	Never	48	29	2,633	30	2.1	2.2	-.08
		2	Sometimes	70	46	3,351	38			
		3	Often	18	12	1,526	17			
		4	Very often	20	13	1,406	15			
		Total		156	100	8,916	100			
5. How much does your institution emphasize the following?										
a. Teaching with new, cutting-edge technologies	TEC05a	1	Very little	32	18	1,245	14	2.3	2.5 **	-0.24
		2	Some	65	42	3,320	37			
		3	Quite a bit	49	33	3,035	33			
		4	Very much	11	7	1,380	16			
		Total		157	100	8,980	100			
b. Providing technology to help you learn, study or complete coursework	TEC05b	1	Very little	17	10	766	9	2.6	2.8 *	-0.20
		2	Some	59	36	2,505	28			
		3	Quite a bit	59	39	3,540	39			
		4	Very much	22	15	2,153	24			
		Total		157	100	8,964	100			
c. Teaching you how to use available technologies to learn, study, or complete coursework	TEC05c	1	Very little	16	9	962	11	2.5	2.7 *	-0.17
		2	Some	66	43	2,700	30			
		3	Quite a bit	51	33	3,289	36			
		4	Very much	23	15	2,013	22			
		Total		156	100	8,964	100			
d. Providing support services to assist you with your use of technology	TEC05d	1	Very little	11	6	985	12	2.7	2.7	.07
		2	Some	55	35	2,794	31			
		3	Quite a bit	57	38	3,191	36			
		4	Very much	33	21	1,962	22			
		Total		156	100	8,932	100			

*p<.05, **p<.01, ***p<.001 (2-tailed); Refer to the Endnotes page for a key to the triangle symbols.

Seniors

Item wording or description	Variable name	Values ^c	Response options	Frequency Distributions ^a				Statistical Comparisons ^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	Effect size ^d
				Count	%	Count	%	Mean	Mean	
1. During the current school year, how much has your use of technology contributed to the following:										
a. Your understanding of course materials and ideas	TEC01a	1	Very little	5	3	422	3	3.0	3.4 ***	-0.43
		2	Some	42	23	1,630	12			
		3	Quite a bit	88	46	4,298	32			
		4	Very much	58	29	7,034	53			
		Total		193	100	13,384	100			
b. Demonstrating your understanding of course content	TEC01b	1	Very little	8	5	494	4	2.9	3.3 ***	-0.46
		2	Some	48	26	1,935	14			
		3	Quite a bit	89	45	4,451	33			
		4	Very much	48	24	6,423	49			
		Total		193	100	13,303	100			
c. Learning, studying, or completing coursework on your own	TEC01c	1	Very little	4	2	268	2	3.2	3.5 ***	-0.44
		2	Some	26	15	1,069	8			
		3	Quite a bit	86	46	3,812	28			
		4	Very much	76	37	8,178	62			
		Total		192	100	13,327	100			
d. Learning, studying, or completing coursework with other students	TEC01d	1	Very little	10	6	1,291	10	2.9	3.0 **	-0.17
		2	Some	45	25	2,577	19			
		3	Quite a bit	90	48	3,782	28			
		4	Very much	45	21	5,640	43			
		Total		190	100	13,290	100			
e. Distracting you from completing your coursework	TEC01e	1	Very little	30	18	2,282	19	2.5	2.6	-0.04
		2	Some	59	31	4,099	31			
		3	Quite a bit	61	31	3,319	24			
		4	Very much	41	20	3,571	26			
		Total		191	100	13,271	100			
2. During the current school year, how much have your courses improved your understanding and use of technology?										
	TEC02	1	Very little	28	15	2,235	17	2.4	2.6 *	-0.15
		2	Some	77	39	4,174	30			
		3	Quite a bit	61	32	4,095	31			
		4	Very much	27	13	2,741	22			
		Total		193	100	13,245	100			
3. During the current school year, about how often have you used the following technologies in your courses?										
a. Electronic textbooks	TEC03a	1	Never	121	60	4,753	33	1.5	2.2 ***	-0.65
		2	Sometimes	55	31	4,145	30			
		3	Often	14	8	2,132	17			
		4	Very often	3	2	2,288	19			
		—	I don't know what this is	0	0	49	0			
Total		193	100	13,367	100					
b. Online portfolios or e-portfolios	TEC03b	1	Never	101	54	6,528	48	1.6	1.8 **	-0.17
		2	Sometimes	62	32	3,005	23			
		3	Often	13	6	1,373	10			
		4	Very often	9	5	1,105	9			
		—	I don't know what this is	6	3	1,291	10			
Total		191	100	13,302	100					

Seniors

Item wording or description	Variable name	Values ^c	Response options	Frequency Distributions ^a				Statistical Comparisons ^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	
				Count	%	Count	%	Mean	Mean	Effect size ^d
c. Blogs	TEC03c	1	Never	126	66	7,514	56	1.4	1.7 ***	-0.24 ▽
		2	Sometimes	51	27	3,619	28			
		3	Often	9	5	1,169	9			
		4	Very often	4	3	794	6			
		—	I don't know what this is	0	0	130	1			
		Total		190	100	13,226	100			
d. Collaborative editing software (Wikis, Google Docs, etc.)	TEC03d	1	Never	62	33	3,108	24	2.0	2.4 ***	-0.35 ▽
		2	Sometimes	74	39	4,231	31			
		3	Often	29	15	3,051	23			
		4	Very often	23	11	2,759	21			
		—	I don't know what this is	2	1	117	1			
		Total		190	100	13,266	100			
e. Multimedia software (drawing, audio or video production, editing, etc.)	TEC03e	1	Never	102	51	6,234	45	1.7	1.9 **	-0.20 ▽
		2	Sometimes	59	31	3,536	27			
		3	Often	16	10	1,724	13			
		4	Very often	14	7	1,625	13			
		—	I don't know what this is	1	0	164	1			
		Total		192	100	13,283	100			
f. Social networking (Facebook, Twitter, etc.)	TEC03f	1	Never	76	40	5,787	45	1.9	2.0	-0.02
		2	Sometimes	66	34	3,638	27			
		3	Often	32	17	1,918	14			
		4	Very often	18	9	1,837	14			
		—	I don't know what this is	0	0	93	1			
		Total		192	100	13,273	100			
g. Mobile computing (handheld devices such as smartphones, tablets, etc.)	TEC03g	1	Never	48	25	2,793	20	2.3	2.6 ***	-0.32 ▽
		2	Sometimes	72	37	3,600	27			
		3	Often	41	21	2,894	22			
		4	Very often	32	16	3,971	31			
		—	I don't know what this is	0	0	54	0			
		Total		193	100	13,312	100			
4. During the current school year, about how often have you used technology to communicate with the following people?										
a. Students	TEC04a	1	Never	2	1	296	3	3.5	3.5	.03
		2	Sometimes	16	9	1,533	12			
		3	Often	55	30	2,792	21			
		4	Very often	120	60	8,746	64			
		Total		193	100	13,367	100			
		b. Academic advisors	TEC04b	1	Never	11	6			
2	Sometimes			49	26	3,901	30			
3	Often			79	42	3,146	23			
4	Very often			52	27	4,200	29			
Total				191	100	13,341	100			
c. Faculty	TEC04c			1	Never	9	5	611	6	2.9
		2	Sometimes	54	28	3,206	26			
		3	Often	82	43	4,236	32			
		4	Very often	48	24	5,222	37			
		Total		193	100	13,275	100			

*p<.05, **p<.01, ***p<.001 (2-tailed); Refer to the Endnotes page for a key to the triangle symbols.

Seniors

<i>Item wording or description</i>	<i>Variable name</i>	<i>Values^c</i>	<i>Response options</i>	Frequency Distributions^a				Statistical Comparisons^b		
				WSC		Tech-2014&15 Public		WSC	Tech-2014&15 Public	
				<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Mean</i>	<i>Mean</i>	<i>Effect size^d</i>
d. Student services staff (career services, student activities, housing, etc.)	TEC04d	1	Never	62	31	5,527	43	2.1	2.0	.09
		2	Sometimes	71	38	3,656	27			
		3	Often	33	18	1,785	13			
		4	Very often	27	13	2,324	16			
		Total		193	100	13,292	100			
e. Other administrative staff and offices (registrar, financial aid, etc.)	TEC04e	1	Never	52	26	4,176	33	2.1	2.1	.00
		2	Sometimes	90	47	4,895	37			
		3	Often	27	14	1,937	14			
		4	Very often	24	13	2,276	16			
		Total		193	100	13,284	100			
5. How much does your institution emphasize the following?										
a. Teaching with new, cutting-edge technologies	TEC05a	1	Very little	38	19	2,036	16	2.3	2.5 ***	-0.26
		2	Some	83	43	4,879	35			
		3	Quite a bit	58	31	4,317	32			
		4	Very much	14	7	2,138	17			
		Total		193	100	13,370	100			
b. Providing technology to help you learn, study or complete coursework	TEC05b	1	Very little	13	6	1,487	12	2.6	2.7 *	-0.15
		2	Some	80	42	3,949	29			
		3	Quite a bit	77	41	4,925	37			
		4	Very much	21	11	2,981	23			
		Total		191	100	13,342	100			
c. Teaching you how to use available technologies to learn, study, or complete coursework	TEC05c	1	Very little	23	11	1,856	14	2.5	2.6 *	-0.14
		2	Some	77	39	4,302	32			
		3	Quite a bit	74	40	4,459	33			
		4	Very much	19	9	2,718	21			
		Total		193	100	13,335	100			
d. Providing support services to assist you with your use of technology	TEC05d	1	Very little	34	18	2,089	16	2.4	2.5 *	-0.16
		2	Some	71	37	4,522	33			
		3	Quite a bit	62	33	4,146	31			
		4	Very much	25	12	2,543	20			
		Total		192	100	13,300	100			

First-Year Students

Variable name	N	Mean		Standard error ^f		Standard deviation ^g		DF ^h	Sig. ⁱ	Effect size ^d
	WSC	WSC	Tech-2014&15 Public	WSC	Tech-2014&15 Public	WSC	Tech-2014&15 Public			
TEC01a	155	3.16	3.26	.07	.01	0.83	0.79	14,254	.109	-.13
TEC01b	153	2.98	3.18	.07	.01	0.84	0.81	14,153	.003	-.24
TEC01c	155	3.34	3.40	.06	.01	0.74	0.74	14,164	.292	-.09
TEC01d	153	2.78	2.90	.08	.01	0.95	0.98	14,139	.132	-.12
TEC01e	152	2.60	2.70	.08	.01	0.95	0.99	14,125	.241	-.10
TEC02	154	2.39	2.49	.07	.01	0.90	0.96	13,943	.191	-.11
TEC03a	155	1.36	2.22	.06	.01	0.72	1.07	162	.000	-.81
TEC03b	146	1.59	1.79	.06	.01	0.78	0.96	151	.002	-.21
TEC03c	151	1.33	1.73	.05	.01	0.60	0.92	158	.000	-.43
TEC03d	153	1.92	2.35	.08	.01	0.93	1.03	156	.000	-.43
TEC03e	152	1.47	1.85	.06	.01	0.75	0.99	157	.000	-.38
TEC03f	154	2.06	2.04	.09	.01	1.09	1.10	13,988	.872	.01
TEC03g	155	2.37	2.62	.09	.01	1.09	1.07	14,108	.004	-.23
TEC04a	154	3.49	3.40	.06	.01	0.76	0.82	14,202	.168	.11
TEC04b	154	2.63	2.52	.07	.01	0.92	1.02	157	.140	.11
TEC04c	153	2.68	2.74	.07	.01	0.91	0.96	14,146	.506	-.05
TEC04d	154	2.20	2.17	.08	.01	0.94	1.05	157	.697	.03
TEC04e	152	2.09	2.18	.08	.01	0.96	1.02	155	.272	-.08
TEC05a	154	2.29	2.50	.07	.01	0.85	0.92	157	.002	-.24
TEC05b	154	2.59	2.78	.07	.01	0.86	0.91	14,161	.012	-.20
TEC05c	153	2.54	2.70	.07	.01	0.86	0.94	14,159	.041	-.17
TEC05d	153	2.75	2.68	.07	.01	0.86	0.94	156	.329	.07

Seniors

Variable name	N	Mean		Standard error ^f		Standard deviation ^g		DF ^h	Sig. ⁱ	Effect size ^d
	WSC	WSC	Tech-2014&15 Public	WSC	Tech-2014&15 Public	WSC	Tech-2014&15 Public			
TEC01a	189	3.01	3.35	.06	.01	0.79	0.81	191	.000	-.43
TEC01b	189	2.88	3.27	.06	.01	0.83	0.84	191	.000	-.46
TEC01c	189	3.18	3.50	.05	.00	0.75	0.73	25,256	.000	-.44
TEC01d	186	2.85	3.03	.06	.01	0.82	1.01	189	.004	-.17
TEC01e	188	2.53	2.57	.07	.01	1.01	1.07	25,155	.596	-.04
TEC02	189	2.43	2.58	.07	.01	0.90	1.01	192	.025	-.15
TEC03a	189	1.51	2.23	.05	.01	0.71	1.11	195	.000	-.65
TEC03b	181	1.61	1.78	.06	.01	0.81	0.99	185	.005	-.17
TEC03c	186	1.44	1.66	.05	.01	0.71	0.89	189	.000	-.24
TEC03d	185	2.05	2.42	.07	.01	0.97	1.07	188	.000	-.35
TEC03e	188	1.73	1.94	.07	.01	0.91	1.06	191	.002	-.20
TEC03f	189	1.94	1.97	.07	.01	0.96	1.07	191	.725	-.02
TEC03g	189	2.28	2.64	.07	.01	1.02	1.12	192	.000	-.32
TEC04a	189	3.49	3.46	.05	.01	0.70	0.81	192	.629	.03
TEC04b	188	2.89	2.64	.06	.01	0.87	1.08	191	.000	.23
TEC04c	189	2.86	3.01	.06	.01	0.84	0.92	25,165	.028	-.16
TEC04d	189	2.13	2.03	.07	.01	1.00	1.10	192	.161	.09
TEC04e	189	2.13	2.14	.07	.01	0.95	1.05	192	.967	.00
TEC05a	189	2.25	2.50	.06	.01	0.84	0.95	192	.000	-.26
TEC05b	188	2.56	2.71	.06	.01	0.77	0.94	191	.010	-.15
TEC05c	189	2.47	2.61	.06	.01	0.82	0.97	192	.025	-.14
TEC05d	189	2.38	2.54	.07	.01	0.92	0.98	25,232	.026	-.16

Endnotes

- a. Column percentages are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Percentages may not sum to 100 due to rounding. Counts are unweighted; column percentages cannot be replicated from counts.
- b. All statistics are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Unless otherwise noted, statistical comparisons are two-tailed independent t -tests. Items with categorical response sets are left blank.
- c. These are the values used to calculate means. For the majority of items, these values match the codes in the data file and codebook.
- d. Effect size for independent t -tests uses Cohen's d .
- e. Statistics are weighted by institution-reported sex and enrollment status (and institution size for comparison groups). Categorical items are not listed.
- f. The 95% confidence interval for the population mean is equal to the sample mean plus or minus 1.96 times the standard error of the mean.
- g. A measure of the amount individual scores deviate from the mean of all the scores in the distribution.
- h. Degrees of freedom used to compute the t -tests. Values differ from N s due to weighting and whether equal variances were assumed.
- i. Statistical comparisons are two-tailed independent t -tests. Statistical significance represents the probability that the difference between your students' mean and that of the comparison group is due to chance.

Key to symbols:

- ▲ **Your students' average** was significantly higher ($p < .05$) with an effect size at least .3 in magnitude.
- △ **Your students' average** was significantly higher ($p < .05$) with an effect size less than .3 in magnitude.
- ▽ **Your students' average** was significantly lower ($p < .05$) with an effect size less than .3 in magnitude.
- ▼ **Your students' average** was significantly lower ($p < .05$) with an effect size at least .3 in magnitude.

Note: It is important to interpret the direction of differences relative to item wording and your institutional context.