

GVSU K-12 Student Impact Data
All RESULTS Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 1	Kindergarten	CSAT	Education	18	46.00	63.00	17.00	-17.00	289.00
Classroom 2	Kindergarten	CSAT	Special Education	15	48.00	93.00	45.00	-45.00	2025.00
Classroom 3	Kindergarten	CSAT	Special Education	28	62.00	76.00	14.00	-14.00	196.00
Classroom 4	Kindergarten	CSAT	Special Education	22	39.00	94.00	55.00	-55.00	3025.00
Classroom 5	Kindergarten	CSAT	Special Education	25	36.00	90.00	54.00	-54.00	2916.00
Classroom 6	Kindergarten	CSAT	Special Education	21	67.00	89.00	22.00	-22.00	484.00
Classroom 7	Kindergarten	CSAT	Special Education	21	60.00	95.00	35.00	-35.00	1225.00
Classroom 8	Kindergarten	CSAT	Special Education	23	35.00	66.00	31.00	-31.00	961.00
Classroom 9	Kindergarten	CSAT	Special Education	15	82.00	94.00	12.00	-12.00	144.00
Classroom 10	Kindergarten	CSAT	Special Education	16	6.00	100.00	94.00	-94.00	8836.00
Classroom 11	Kindergarten	CSAT	Special Education	27	74.00	90.67	16.67	-16.67	277.89
Classroom 12	Kindergarten	CSAT	Special Education	22	58.00	76.00	18.00	-18.00	324.00
Classroom 13	Kindergarten	Group Social Studies	Education	17	62.00	81.00	19.00	-19.00	361.00
Classroom 14	Kindergarten	Integrated Science	Education	20	54.00	97.00	43.00	-43.00	1849.00
Classroom 15	Kindergarten	Language Arts	Education	23	30.00	83.00	53.00	-53.00	2809.00
Classroom 16	Kindergarten	Language Arts	Education	25	19.00	80.00	61.00	-61.00	3721.00
Classroom 17	Kindergarten	Language Arts	Education	20	45.00	70.00	25.00	-25.00	625.00
Classroom 18	Kindergarten	Language Arts	Education	23	66.00	89.00	23.00	-23.00	529.00
Classroom 19	Kindergarten	Language Arts	Education	22	75.00	89.00	14.00	-14.00	196.00
Classroom 20	Kindergarten	Language Arts	Education	17	69.00	80.00	11.00	-11.00	121.00
Classroom 21	Kindergarten	Language Arts	Education	24	94.00	98.00	4.00	-4.00	16.00
Classroom 22	Kindergarten	Language Arts	Education	20	67.00	84.00	17.00	-17.00	289.00
Classroom 23	Kindergarten	Language Arts	Education	23	67.00	71.00	4.00	-4.00	16.00
Classroom 24	Kindergarten	Language Arts	Education	21	65.00	71.00	6.00	-6.00	36.00
Classroom 25	Kindergarten	Language Arts	Education	23	67.39	90.21	22.82	-22.82	520.75
Classroom 26	Kindergarten	Language Arts	Education	24	54.20	86.10	31.90	-31.90	1017.61
Classroom 27	Kindergarten	Mathematics	Education	15	16.00	94.00	78.00	-78.00	6084.00
Classroom 28	Kindergarten	Music	Education	18	25.00	75.00	50.00	-50.00	2500.00
Classroom 29	Kindergarten	Physical Education	Education	25	0.00	100.00	100.00	-100.00	10000.00
Classroom 30	1st	CSAT	Special Education	21	35.00	75.00	40.00	-40.00	1600.00
Classroom 31	1st	CSAT	Special Education	25	46.20	81.60	35.40	-35.40	1253.16
Classroom 32	1st	CSAT	Special Education	21	50.00	65.00	15.00	-15.00	225.00
Classroom 33	1st	CSAT	Special Education	19	48.00	78.00	30.00	-30.00	900.00
Classroom 34	1st	Group Social Studies	Education	19	61.00	79.00	18.00	-18.00	324.00
Classroom 35	1st	Group Social Studies	Education	22	45.50	68.20	22.70	-22.70	515.29
Classroom 36	1st	Group Social Studies	Education	21	61.90	87.50	25.60	-25.60	655.36
Classroom 37	1st	Group Social Studies	Education	25	19.00	49.00	30.00	-30.00	900.00
Classroom 38	1st	Group Social Studies	Education	18	6.00	67.00	61.00	-61.00	3721.00
Classroom 39	1st	Group Social Studies	Education	23	60.00	72.00	12.00	-12.00	144.00
Classroom 40	1st	Group Social Studies	Education	24	29.00	92.00	63.00	-63.00	3969.00
Classroom 41	1st	Integrated Science	Education	23	84.00	96.00	12.00	-12.00	144.00
Classroom 42	1st	Integrated Science	Education	14	51.00	82.50	31.50	-31.50	992.25
Classroom 43	1st	Integrated Science	Education	21	27.60	92.60	65.00	-65.00	4225.00
Classroom 44	1st	Integrated Science	Education	26	65.00	81.00	16.00	-16.00	256.00
Classroom 45	1st	Integrated Science	Education	20	58.00	88.00	30.00	-30.00	900.00
Classroom 46	1st	Integrated Science	Education	26	76.00	93.00	17.00	-17.00	289.00
Classroom 47	1st	Language Arts	Education	22	60.00	85.00	25.00	-25.00	625.00
Classroom 48	1st	Language Arts	Education	25	40.00	60.00	20.00	-20.00	400.00
Classroom 49	1st	Language Arts	Education	21	78.00	93.00	15.00	-15.00	225.00

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All RESULTS Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 50	1st	Language Arts	Education	24	37.50	72.08	34.58	-34.58	1195.78
Classroom 51	1st	Language Arts	Education	19	82.00	91.00	9.00	-9.00	81.00
Classroom 52	1st	Language Arts	Education	18	42.50	98.00	55.50	-55.50	3080.25
Classroom 53	1st	Language Arts	Education	27	20.00	97.00	77.00	-77.00	5929.00
Classroom 54	1st	Music	Education	27	0.00	100.00	100.00	-100.00	10000.00
Classroom 55	1st			17	44.00	65.00	21.00	-21.00	441.00
Classroom 56	2nd	CSAT	Special Education	15	67.40	98.70	31.30	-31.30	979.69
Classroom 57	2nd	CSAT	Special Education	24	73.00	100.00	27.00	-27.00	729.00
Classroom 58	2nd	CSAT	Special Education	23	52.00	71.00	19.00	-19.00	361.00
Classroom 59	2nd	CSAT	Special Education	22	48.00	72.00	24.00	-24.00	576.00
Classroom 60	2nd	CSAT	Special Education	25	53.00	57.00	4.00	-4.00	16.00
Classroom 61	2nd	Group Social Studies	Education	27	82.00	94.00	12.00	-12.00	144.00
Classroom 62	2nd	Integrated Science	Education	26	86.50	90.90	4.40	-4.40	19.36
Classroom 63	2nd	Integrated Science	Education	24	84.30	93.20	8.90	-8.90	79.21
Classroom 64	2nd	Integrated Science	Education	18	66.00	84.00	18.00	-18.00	324.00
Classroom 65	2nd	Integrated Science	Education	23	44.00	63.00	19.00	-19.00	361.00
Classroom 66	2nd	Integrated Science	Education	20	88.00	92.00	4.00	-4.00	16.00
Classroom 67	2nd	Integrated Science	Education	21	49.52	85.00	35.48	-35.48	1258.83
Classroom 68	2nd	Integrated Science	Education	17	45.00	63.00	18.00	-18.00	324.00
Classroom 69	2nd	Integrated Science	Education	23	70.00	75.00	5.00	-5.00	25.00
Classroom 70	2nd	Integrated Science	Education	27	27.00	72.00	45.00	-45.00	2025.00
Classroom 71	2nd	Language Arts	Education	22	64.00	77.00	13.00	-13.00	169.00
Classroom 72	2nd	Language Arts	Education	18	70.00	80.00	10.00	-10.00	100.00
Classroom 73	2nd	Language Arts	Education	18	12.00	45.00	33.00	-33.00	1089.00
Classroom 74	2nd	Language Arts	Education	22	75.00	94.00	19.00	-19.00	361.00
Classroom 75	2nd	Music	Education	49	0.00	97.00	97.00	-97.00	9409.00
Classroom 76	3rd	CSAT	Special Education	25	63.00	86.50	23.50	-23.50	552.25
Classroom 77	3rd	CSAT	Special Education	24	0.00	91.00	91.00	-91.00	8281.00
Classroom 78	3rd	CSAT	Special Education	28	14.00	83.00	69.00	-69.00	4761.00
Classroom 79	3rd	CSAT	Special Education	25	45.00	95.00	50.00	-50.00	2500.00
Classroom 80	3rd	CSAT	Special Education	26	37.00	83.00	46.00	-46.00	2116.00
Classroom 81	3rd	CSAT	Special Education	22	54.00	91.00	37.00	-37.00	1369.00
Classroom 82	3rd	CSAT	Special Education	26	28.00	82.00	54.00	-54.00	2916.00
Classroom 83	3rd	CSAT	Special Education	24	61.00	93.00	32.00	-32.00	1024.00
Classroom 84	3rd	Group Social Studies	Education	24	36.23	82.45	46.22	-46.22	2136.29
Classroom 85	3rd	Group Social Studies	Education	19	72.00	82.00	10.00	-10.00	100.00
Classroom 86	3rd	Group Social Studies	Education	25	57.30	86.00	28.70	-28.70	823.69
Classroom 87	3rd	Group Social Studies	Education	24	82.00	86.00	4.00	-4.00	16.00
Classroom 88	3rd	Group Social Studies	Education	27	9.00	63.80	54.80	-54.80	3003.04
Classroom 89	3rd	Group Social Studies	Education	22	36.96	40.09	3.13	-3.13	9.80
Classroom 90	3rd	Group Social Studies	Education	17	24.00	56.00	32.00	-32.00	1024.00
Classroom 91	3rd	Integrated Science	Education	21	24.00	80.00	56.00	-56.00	3136.00
Classroom 92	3rd	Language Arts	Education	17	55.70	82.80	27.10	-27.10	734.41
Classroom 93	3rd	Language Arts	Education	26	25.00	95.00	70.00	-70.00	4900.00
Classroom 94	3rd	Language Arts	Education	26	49.80	89.90	40.10	-40.10	1608.01
Classroom 95	3rd	Language Arts	Education	25	39.36	85.88	46.52	-46.52	2164.11
Classroom 96	3rd	Language Arts	Education	22	50.40	88.00	37.60	-37.60	1413.76
Classroom 97	3rd	Language Arts	Education	23	75.40	82.00	6.60	-6.60	43.56
Classroom 98	4th	CSAT	Special Education	24	40.00	65.00	25.00	-25.00	625.00

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Classroom 99	4th	CSAT	Special Education	27	62.50	38.50	-24.00	24.00	576.00
Classroom 100	4th	CSAT	Special Education	28	60.00	75.00	15.00	-15.00	225.00
Classroom 101	4th	CSAT	Special Education	23	78.00	80.00	2.00	-2.00	4.00
Classroom 102	4th	CSAT	Special Education	20	38.00	83.00	45.00	-45.00	2025.00
Classroom 103	4th	Group Social Studies	Education	18	66.60	92.50	25.90	-25.90	670.81
Classroom 104	4th	Group Social Studies	Education	22	39.00	84.00	45.00	-45.00	2025.00
Classroom 105	4th	Group Social Studies	Education	16	44.00	55.00	11.00	-11.00	121.00
Classroom 106	4th	Group Social Studies	Education	23	21.00	93.00	72.00	-72.00	5184.00
Classroom 107	4th	Integrated Science	Education	29	32.00	74.00	42.00	-42.00	1764.00
Classroom 108	4th	Integrated Science	Education	19	58.00	82.00	24.00	-24.00	576.00
Classroom 109	4th	Integrated Science	Education	28	49.00	71.00	22.00	-22.00	484.00
Classroom 110	4th	Integrated Science	Education	26	59.00	80.00	21.00	-21.00	441.00
Classroom 111	4th	Language Arts	Education	28	43.00	86.00	43.00	-43.00	1849.00
Classroom 112	4th	Language Arts	Education	44	65.00	75.00	10.00	-10.00	100.00
Classroom 113	4th	Language Arts	Education	24	28.00	77.00	49.00	-49.00	2401.00
Classroom 114	4th	Language Arts	Education	27	33.00	85.00	52.00	-52.00	2704.00
Classroom 115	4th	Language Arts	Education	18	50.00	71.00	21.00	-21.00	441.00
Classroom 116	4th	Language Arts	Education	19	48.00	89.00	41.00	-41.00	1681.00
Classroom 117	5th	CSAT	Special Education	24	46.00	92.00	46.00	-46.00	2116.00
Classroom 118	5th	CSAT	Special Education	27	28.00	52.00	24.00	-24.00	576.00
Classroom 119	5th	CSAT	Special Education	27	50.20	57.20	7.00	-7.00	49.00
Classroom 120	5th	CSAT	Special Education	25	3.00	77.00	74.00	-74.00	5476.00
Classroom 121	5th	Group Social Studies	Education	17	62.00	68.80	6.80	-6.80	46.24
Classroom 122	5th	Group Social Studies	Education	24	68.00	80.00	12.00	-12.00	144.00
Classroom 123	5th	Group Social Studies	Education	21	35.89	58.79	22.90	-22.90	524.41
Classroom 124	5th	Group Social Studies	Education	25	21.00	67.00	46.00	-46.00	2116.00
Classroom 125	5th	Group Social Studies	Education	21	54.00	94.00	40.00	-40.00	1600.00
Classroom 126	5th	Group Social Studies	Education	36	47.00	94.00	47.00	-47.00	2209.00
Classroom 127	5th	Group Social Studies	Education	22	2.00	82.00	80.00	-80.00	6400.00
Classroom 128	5th	Group Social Studies	Education	27	35.00	50.00	15.00	-15.00	225.00
Classroom 129	5th	Integrated Science	Education	30	47.00	78.00	31.00	-31.00	961.00
Classroom 130	5th	Integrated Science	Education	29	40.00	90.00	50.00	-50.00	2500.00
Classroom 131	5th	Integrated Science	Education	24	4.17	91.60	87.43	-87.43	7644.00
Classroom 132	5th	Integrated Science	Education	24	36.00	78.00	42.00	-42.00	1764.00
Classroom 133	5th	Language Arts	Education	24	23.00	76.00	53.00	-53.00	2809.00
Classroom 134	5th	Language Arts	Education	31	45.00	91.00	46.00	-46.00	2116.00
Classroom 135	5th	Language Arts	Education	23	11.00	42.00	31.00	-31.00	961.00
Classroom 136	5th	Language Arts	Education	25	9.00	88.00	79.00	-79.00	6241.00
Classroom 137	5th	Language Arts	Education	21	36.00	68.00	32.00	-32.00	1024.00
Classroom 138	5th	Mathematics	Education	27	67.50	68.50	1.00	-1.00	1.00
Classroom 139	5th	Mathematics	Education	11	50.00	79.00	29.00	-29.00	841.00
Classroom 140	5th	Mathematics	Education	31	35.00	76.00	41.00	-41.00	1681.00
Classroom 141	5th	Mathematics	Education	28	23.00	86.00	63.00	-63.00	3969.00
Classroom 142	5th	Mathematics	Education	28	36.00	74.00	38.00	-38.00	1444.00
Classroom 143	5th	Mathematics	Education	26	25.00	88.00	63.00	-63.00	3969.00
Classroom 144	5th	Mathematics	Education	30	36.00	89.00	53.00	-53.00	2809.00
Classroom 145	5th	Mathematics	Education	27	53.00	83.00	30.00	-30.00	900.00
Classroom 146	5th	Mathematics	Education	13	41.00	68.00	27.00	-27.00	729.00
Classroom 147	5th	Mathematics	Education	26	57.00	83.00	26.00	-26.00	676.00

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Classroom 148	5th	Mathematics	Education	23	26.00	93.00	67.00	-67.00	4489.00
Classroom 149	5th	Mathematics	Education	27	29.67	68.96	39.29	-39.29	1543.70
Classroom 150	5th	Mathematics	Education	30	48.00	77.00	29.00	-29.00	841.00
Classroom 151	5th	Mathematics	Education	19	51.10	62.40	11.30	-11.30	127.69
Classroom 152	5th	Mathematics	Education	27	77.16	88.60	11.44	-11.44	130.87
Classroom 153	5th	Mathematics	Education	22	38.00	82.72	44.72	-44.72	1999.88
Classroom 154	5th	Mathematics	Education	22	38.89	57.07	18.18	-18.18	330.51
Classroom 155	5th	Mathematics	Education	28	76.00	82.00	6.00	-6.00	36.00
Classroom 156	5th	Mathematics	Education	27	78.00	89.00	11.00	-11.00	121.00
Classroom 157	5th	Mathematics	Education	29	30.00	84.00	54.00	-54.00	2916.00
Classroom 158	5th	Mathematics	Education	24	59.00	90.00	31.00	-31.00	961.00
Classroom 159	5th			28	70.00	83.00	13.00	-13.00	169.00
Classroom 160	6th	English	Education	24	77.50	82.70	5.20	-5.20	27.04
Classroom 161	6th	Group Social Studies	Education	63	47.00	73.00	26.00	-26.00	676.00
Classroom 162	6th	Group Social Studies	Education	28	38.50	72.00	33.50	-33.50	1122.25
Classroom 163	6th	Integrated Science	Education	28	54.00	71.00	17.00	-17.00	289.00
Classroom 164	6th	Integrated Science	Education	23	84.00	94.00	10.00	-10.00	100.00
Classroom 165	6th	Integrated Science	Education	19	45.00	92.00	47.00	-47.00	2209.00
Classroom 166	6th	Mathematics	Education	41	51.50	74.20	22.70	-22.70	515.29
Classroom 167	6th	Music	Education	70	0.00	100.00	100.00	-100.00	10000.00
Classroom 168	6th	Music	Education	35	75.00	89.00	14.00	-14.00	196.00
Classroom 169	6th	Physical Education	Education	50	74.00	100.00	26.00	-26.00	676.00
Classroom 170	6th			165	34.00	86.00	52.00	-52.00	2704.00
Classroom 171	7th	English	Education	80	38.00	84.00	46.00	-46.00	2116.00
Classroom 172	7th	Group Social Studies	Education	82	76.00	81.00	5.00	-5.00	25.00
Classroom 173	7th	Group Social Studies	Education	138	36.00	52.00	16.00	-16.00	256.00
Classroom 174	7th	Music	Education	60	46.00	88.00	42.00	-42.00	1764.00
Classroom 175	7th	Physical Education	Education	134	45.00	89.00	44.00	-44.00	1936.00
Classroom 176	7th			40	74.00	90.00	16.00	-16.00	256.00
Classroom 177	8th	Group Social Studies	Education	64	35.00	82.00	47.00	-47.00	2209.00
Classroom 178	8th	Mathematics	Education	17	33.30	78.00	44.70	-44.70	1998.09
Classroom 179	8th	Music	Education	48	53.00	80.00	27.00	-27.00	729.00
Classroom 180	8th	Music	Education	38	62.50	83.00	20.50	-20.50	420.25
Classroom 181	9th	Art	Education	45	36.00	80.00	44.00	-44.00	1936.00
Classroom 182	9th	Biology	Education	94	40.00	83.00	43.00	-43.00	1849.00
Classroom 183	9th	Biology	Education	135	33.30	83.00	49.70	-49.70	2470.09
Classroom 184	9th	Biology	Education	116	39.40	81.40	42.00	-42.00	1764.00
Classroom 185	9th	Earth Science	Education	87	16.00	86.30	70.30	-70.30	4942.09
Classroom 186	9th	English	Education	115	20.95	77.40	56.45	-56.45	3186.60
Classroom 187	9th	French	Education	32	0.00	93.75	93.75	-93.75	8789.06
Classroom 188	9th	Group Social Studies	Education	85	58.00	73.00	15.00	-15.00	225.00
Classroom 189	9th	Music	Education	26	70.00	76.00	6.00	-6.00	36.00
Classroom 190	9th			12	58.00	75.00	17.00	-17.00	289.00
Classroom 191	10th	Earth Science	Education	68	67.00	86.00	19.00	-19.00	361.00
Classroom 192	10th	English	Education	56	50.00	85.00	35.00	-35.00	1225.00
Classroom 193	10th	German	Education	26	25.00	65.00	40.00	-40.00	1600.00
Classroom 194	10th	Group Social Studies	Education	78	37.00	90.00	53.00	-53.00	2809.00
Classroom 195	10th	Group Social Studies	Education	27	46.00	84.20	38.20	-38.20	1459.24
Classroom 196	10th	Group Social Studies	Education	57	59.00	83.00	24.00	-24.00	576.00

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Classroom 197	10th	Group Social Studies	Education	59	33.00	66.00	33.00	-33.00	1089.00
Classroom 198	10th	Group Social Studies	Education	70	25.00	92.00	67.00	-67.00	4489.00
Classroom 199	10th	Mathematics	Education	32	3.90	84.00	80.10	-80.10	6416.01
Classroom 200	10th	Mathematics	Education	113	55.00	82.00	27.00	-27.00	729.00
Classroom 201	11th	Group Social Studies	Education	67	67.00	85.00	18.00	-18.00	324.00
Classroom 202	11th	Group Social Studies	Education	119	73.00	82.00	9.00	-9.00	81.00
Classroom 203	11th	Mathematics	Education	28	52.50	82.00	29.50	-29.50	870.25
Classroom 204	11th	Mathematics	Education	61	55.00	72.00	17.00	-17.00	289.00
Classroom 205	11th			20	54.00	77.00	23.00	-23.00	529.00
Classroom 206	12th	English	Education	26	48.00	72.00	24.00	-24.00	576.00
Classroom 207	12th	English	Education	54	65.00	89.00	24.00	-24.00	576.00
Classroom 208	12th	Music	Education	45	7.00	80.00	73.00	-73.00	5329.00
Classroom 209	12th			60	70.00	90.00	20.00	-20.00	400.00

Number of Tests = N	209	Number of K-12 Students:	6766	Average % Improvement: 33.70	-7043.58	344902.73
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-33.70
M =Middle value	107524.65
O =Bottom Value	43472.00
P =Square root of M/O	1.57
T = (L/P)	-21.42880524
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.482

GVSU K-12 Student Impact Data
Kindergarten Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 1	Kindergarten	CSAT	Education	18	46.00	63.00	17.00	-17.00	289.00
Classroom 2	Kindergarten	CSAT	Special Education	15	48.00	93.00	45.00	-45.00	2025.00
Classroom 3	Kindergarten	CSAT	Special Education	28	62.00	76.00	14.00	-14.00	196.00
Classroom 4	Kindergarten	CSAT	Special Education	22	39.00	94.00	55.00	-55.00	3025.00
Classroom 5	Kindergarten	CSAT	Special Education	25	36.00	90.00	54.00	-54.00	2916.00
Classroom 6	Kindergarten	CSAT	Special Education	21	67.00	89.00	22.00	-22.00	484.00
Classroom 7	Kindergarten	CSAT	Special Education	21	60.00	95.00	35.00	-35.00	1225.00
Classroom 8	Kindergarten	CSAT	Special Education	23	35.00	66.00	31.00	-31.00	961.00
Classroom 9	Kindergarten	CSAT	Special Education	15	82.00	94.00	12.00	-12.00	144.00
Classroom 10	Kindergarten	CSAT	Special Education	16	6.00	100.00	94.00	-94.00	8836.00
Classroom 11	Kindergarten	CSAT	Special Education	27	74.00	90.67	16.67	-16.67	277.89
Classroom 12	Kindergarten	CSAT	Special Education	22	58.00	76.00	18.00	-18.00	324.00
Classroom 13	Kindergarten	Group Social Studies	Education	17	62.00	81.00	19.00	-19.00	361.00
Classroom 14	Kindergarten	Integrated Science	Education	20	54.00	97.00	43.00	-43.00	1849.00
Classroom 15	Kindergarten	Language Arts	Education	23	30.00	83.00	53.00	-53.00	2809.00
Classroom 16	Kindergarten	Language Arts	Education	25	19.00	80.00	61.00	-61.00	3721.00
Classroom 17	Kindergarten	Language Arts	Education	20	45.00	70.00	25.00	-25.00	625.00
Classroom 18	Kindergarten	Language Arts	Education	23	66.00	89.00	23.00	-23.00	529.00
Classroom 19	Kindergarten	Language Arts	Education	22	75.00	89.00	14.00	-14.00	196.00
Classroom 20	Kindergarten	Language Arts	Education	17	69.00	80.00	11.00	-11.00	121.00
Classroom 21	Kindergarten	Language Arts	Education	24	94.00	98.00	4.00	-4.00	16.00
Classroom 22	Kindergarten	Language Arts	Education	20	67.00	84.00	17.00	-17.00	289.00
Classroom 23	Kindergarten	Language Arts	Education	23	67.00	71.00	4.00	-4.00	16.00
Classroom 24	Kindergarten	Language Arts	Education	21	65.00	71.00	6.00	-6.00	36.00
Classroom 25	Kindergarten	Language Arts	Education	23	67.39	90.21	22.82	-22.82	520.75
Classroom 26	Kindergarten	Language Arts	Education	24	54.20	86.10	31.90	-31.90	1017.61
Classroom 27	Kindergarten	Mathematics	Education	15	16.00	94.00	78.00	-78.00	6084.00
Classroom 28	Kindergarten	Music	Education	18	25.00	75.00	50.00	-50.00	2500.00
Classroom 29	Kindergarten	Physical Education	Education	25	0.00	100.00	100.00	-100.00	10000.00

Number of Tests = N	29	Number of K-12 Students:	613	Average % Improvement: 33.67	-976.39	51393.25
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-33.67
M =Middle value	18519.55
O =Bottom Value	812.00
P =Square root of M/O	4.78
T = (L/P)	-7.049984511
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.309

GVSU K-12 Student Impact Data
1st Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 30	1st	CSAT	Special Education	21	35.00	75.00	40.00	-40.00	1600.00
Classroom 31	1st	CSAT	Special Education	25	46.20	81.60	35.40	-35.40	1253.16
Classroom 32	1st	CSAT	Special Education	21	50.00	65.00	15.00	-15.00	225.00
Classroom 33	1st	CSAT	Special Education	19	48.00	78.00	30.00	-30.00	900.00
Classroom 34	1st	Group Social Studies	Education	19	61.00	79.00	18.00	-18.00	324.00
Classroom 35	1st	Group Social Studies	Education	22	45.50	68.20	22.70	-22.70	515.29
Classroom 36	1st	Group Social Studies	Education	21	61.90	87.50	25.60	-25.60	655.36
Classroom 37	1st	Group Social Studies	Education	25	19.00	49.00	30.00	-30.00	900.00
Classroom 38	1st	Group Social Studies	Education	18	6.00	67.00	61.00	-61.00	3721.00
Classroom 39	1st	Group Social Studies	Education	23	60.00	72.00	12.00	-12.00	144.00
Classroom 40	1st	Group Social Studies	Education	24	29.00	92.00	63.00	-63.00	3969.00
Classroom 41	1st	Integrated Science	Education	23	84.00	96.00	12.00	-12.00	144.00
Classroom 42	1st	Integrated Science	Education	14	51.00	82.50	31.50	-31.50	992.25
Classroom 43	1st	Integrated Science	Education	21	27.60	92.60	65.00	-65.00	4225.00
Classroom 44	1st	Integrated Science	Education	26	65.00	81.00	16.00	-16.00	256.00
Classroom 45	1st	Integrated Science	Education	20	58.00	88.00	30.00	-30.00	900.00
Classroom 46	1st	Integrated Science	Education	26	76.00	93.00	17.00	-17.00	289.00
Classroom 47	1st	Language Arts	Education	22	60.00	85.00	25.00	-25.00	625.00
Classroom 48	1st	Language Arts	Education	25	40.00	60.00	20.00	-20.00	400.00
Classroom 49	1st	Language Arts	Education	21	78.00	93.00	15.00	-15.00	225.00
Classroom 50	1st	Language Arts	Education	24	37.50	72.08	34.58	-34.58	1195.78
Classroom 51	1st	Language Arts	Education	19	82.00	91.00	9.00	-9.00	81.00
Classroom 52	1st	Language Arts	Education	18	42.50	98.00	55.50	-55.50	3080.25
Classroom 53	1st	Language Arts	Education	27	20.00	97.00	77.00	-77.00	5929.00
Classroom 54	1st	Music	Education	27	0.00	100.00	100.00	-100.00	10000.00
Classroom 55	1st			17	44.00	65.00	21.00	-21.00	441.00

Number of Tests = N	26	Number of K-12 Students:	568	Average % Improvement: 33.90	-881.28	42990.09
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-33.90
					M =Middle value	13118.76
					O =Bottom Value	650.00
					P =Square root of M/O	4.49
					T = (L/P)	-7.544853659
					∞ = 0.05	Critical T = 1.645
						Significant
					T/Square Root of N = Effect	-1.480

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

GVSU K-12 Student Impact Data
2nd Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 56	2nd	CSAT	Special Education	15	67.40	98.70	31.30	-31.30	979.69
Classroom 57	2nd	CSAT	Special Education	24	73.00	100.00	27.00	-27.00	729.00
Classroom 58	2nd	CSAT	Special Education	23	52.00	71.00	19.00	-19.00	361.00
Classroom 59	2nd	CSAT	Special Education	22	48.00	72.00	24.00	-24.00	576.00
Classroom 60	2nd	CSAT	Special Education	25	53.00	57.00	4.00	-4.00	16.00
Classroom 61	2nd	Group Social Studies	Education	27	82.00	94.00	12.00	-12.00	144.00
Classroom 62	2nd	Integrated Science	Education	26	86.50	90.90	4.40	-4.40	19.36
Classroom 63	2nd	Integrated Science	Education	24	84.30	93.20	8.90	-8.90	79.21
Classroom 64	2nd	Integrated Science	Education	18	66.00	84.00	18.00	-18.00	324.00
Classroom 65	2nd	Integrated Science	Education	23	44.00	63.00	19.00	-19.00	361.00
Classroom 66	2nd	Integrated Science	Education	20	88.00	92.00	4.00	-4.00	16.00
Classroom 67	2nd	Integrated Science	Education	21	49.52	85.00	35.48	-35.48	1258.83
Classroom 68	2nd	Integrated Science	Education	17	45.00	63.00	18.00	-18.00	324.00
Classroom 69	2nd	Integrated Science	Education	23	70.00	75.00	5.00	-5.00	25.00
Classroom 70	2nd	Integrated Science	Education	27	27.00	72.00	45.00	-45.00	2025.00
Classroom 71	2nd	Language Arts	Education	22	64.00	77.00	13.00	-13.00	169.00
Classroom 72	2nd	Language Arts	Education	18	70.00	80.00	10.00	-10.00	100.00
Classroom 73	2nd	Language Arts	Education	18	12.00	45.00	33.00	-33.00	1089.00
Classroom 74	2nd	Language Arts	Education	22	75.00	94.00	19.00	-19.00	361.00
Classroom 75	2nd	Music	Education	49	0.00	97.00	97.00	-97.00	9409.00

Number of Tests = N	20	Number of K-12 Students:	464	Average % Improvement: 22.35	-447.08	18366.09
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-22.35
M =Middle value	8372.06
O =Bottom Value	380.00
P =Square root of M/O	4.69
T = (L/P)	-4.762453771
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.065

GVSU K-12 Student Impact Data
3rd Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 76	3rd	CSAT	Special Education	25	63.00	86.50	23.50	-23.50	552.25
Classroom 77	3rd	CSAT	Special Education	24	0.00	91.00	91.00	-91.00	8281.00
Classroom 78	3rd	CSAT	Special Education	28	14.00	83.00	69.00	-69.00	4761.00
Classroom 79	3rd	CSAT	Special Education	25	45.00	95.00	50.00	-50.00	2500.00
Classroom 80	3rd	CSAT	Special Education	26	37.00	83.00	46.00	-46.00	2116.00
Classroom 81	3rd	CSAT	Special Education	22	54.00	91.00	37.00	-37.00	1369.00
Classroom 82	3rd	CSAT	Special Education	26	28.00	82.00	54.00	-54.00	2916.00
Classroom 83	3rd	CSAT	Special Education	24	61.00	93.00	32.00	-32.00	1024.00
Classroom 84	3rd	Group Social Studies	Education	24	36.23	82.45	46.22	-46.22	2136.29
Classroom 85	3rd	Group Social Studies	Education	19	72.00	82.00	10.00	-10.00	100.00
Classroom 86	3rd	Group Social Studies	Education	25	57.30	86.00	28.70	-28.70	823.69
Classroom 87	3rd	Group Social Studies	Education	24	82.00	86.00	4.00	-4.00	16.00
Classroom 88	3rd	Group Social Studies	Education	27	9.00	63.80	54.80	-54.80	3003.04
Classroom 89	3rd	Group Social Studies	Education	22	36.96	40.09	3.13	-3.13	9.80
Classroom 90	3rd	Group Social Studies	Education	17	24.00	56.00	32.00	-32.00	1024.00
Classroom 91	3rd	Integrated Science	Education	21	24.00	80.00	56.00	-56.00	3136.00
Classroom 92	3rd	Language Arts	Education	17	55.70	82.80	27.10	-27.10	734.41
Classroom 93	3rd	Language Arts	Education	26	25.00	95.00	70.00	-70.00	4900.00
Classroom 94	3rd	Language Arts	Education	26	49.80	89.90	40.10	-40.10	1608.01
Classroom 95	3rd	Language Arts	Education	25	39.36	85.88	46.52	-46.52	2164.11
Classroom 96	3rd	Language Arts	Education	22	50.40	88.00	37.60	-37.60	1413.76
Classroom 97	3rd	Language Arts	Education	23	75.40	82.00	6.60	-6.60	43.56

Number of Tests = N	22	Number of K-12 Students:	518	Average % Improvement: 39.33	-865.27	44631.92
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-39.33
M =Middle value	10600.45
O =Bottom Value	462.00
P =Square root of M/O	4.79
T = (L/P)	-8.210842752
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.751

GVSU K-12 Student Impact Data
4th Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 98	4th	CSAT	Special Education	24	40.00	65.00	25.00	-25.00	625.00
Classroom 99	4th	CSAT	Special Education	27	62.50	38.50	-24.00	24.00	576.00
Classroom 100	4th	CSAT	Special Education	28	60.00	75.00	15.00	-15.00	225.00
Classroom 101	4th	CSAT	Special Education	23	78.00	80.00	2.00	-2.00	4.00
Classroom 102	4th	CSAT	Special Education	20	38.00	83.00	45.00	-45.00	2025.00
Classroom 103	4th	Group Social Studies	Education	18	66.60	92.50	25.90	-25.90	670.81
Classroom 104	4th	Group Social Studies	Education	22	39.00	84.00	45.00	-45.00	2025.00
Classroom 105	4th	Group Social Studies	Education	16	44.00	55.00	11.00	-11.00	121.00
Classroom 106	4th	Group Social Studies	Education	23	21.00	93.00	72.00	-72.00	5184.00
Classroom 107	4th	Integrated Science	Education	29	32.00	74.00	42.00	-42.00	1764.00
Classroom 108	4th	Integrated Science	Education	19	58.00	82.00	24.00	-24.00	576.00
Classroom 109	4th	Integrated Science	Education	28	49.00	71.00	22.00	-22.00	484.00
Classroom 110	4th	Integrated Science	Education	26	59.00	80.00	21.00	-21.00	441.00
Classroom 111	4th	Language Arts	Education	28	43.00	86.00	43.00	-43.00	1849.00
Classroom 112	4th	Language Arts	Education	44	65.00	75.00	10.00	-10.00	100.00
Classroom 113	4th	Language Arts	Education	24	28.00	77.00	49.00	-49.00	2401.00
Classroom 114	4th	Language Arts	Education	27	33.00	85.00	52.00	-52.00	2704.00
Classroom 115	4th	Language Arts	Education	18	50.00	71.00	21.00	-21.00	441.00
Classroom 116	4th	Language Arts	Education	19	48.00	89.00	41.00	-41.00	1681.00

Number of Tests = N	19	Number of K-12 Students:	463	Average % Improvement: 28.52	-541.90	23896.81
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-28.52
M =Middle value	8441.25
O =Bottom Value	342.00
P =Square root of M/O	4.97
T = (L/P)	-5.740836538
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.317

GVSU K-12 Student Impact Data
5th Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 117	5th	CSAT	Special Education	24	46.00	92.00	46.00	-46.00	2116.00
Classroom 118	5th	CSAT	Special Education	27	28.00	52.00	24.00	-24.00	576.00
Classroom 119	5th	CSAT	Special Education	27	50.20	57.20	7.00	-7.00	49.00
Classroom 120	5th	CSAT	Special Education	25	3.00	77.00	74.00	-74.00	5476.00
Classroom 121	5th	Group Social Studies	Education	17	62.00	68.80	6.80	-6.80	46.24
Classroom 122	5th	Group Social Studies	Education	24	68.00	80.00	12.00	-12.00	144.00
Classroom 123	5th	Group Social Studies	Education	21	35.89	58.79	22.90	-22.90	524.41
Classroom 124	5th	Group Social Studies	Education	25	21.00	67.00	46.00	-46.00	2116.00
Classroom 125	5th	Group Social Studies	Education	21	54.00	94.00	40.00	-40.00	1600.00
Classroom 126	5th	Group Social Studies	Education	36	47.00	94.00	47.00	-47.00	2209.00
Classroom 127	5th	Group Social Studies	Education	22	2.00	82.00	80.00	-80.00	6400.00
Classroom 128	5th	Group Social Studies	Education	27	35.00	50.00	15.00	-15.00	225.00
Classroom 129	5th	Integrated Science	Education	30	47.00	78.00	31.00	-31.00	961.00
Classroom 130	5th	Integrated Science	Education	29	40.00	90.00	50.00	-50.00	2500.00
Classroom 131	5th	Integrated Science	Education	24	4.17	91.60	87.43	-87.43	7644.00
Classroom 132	5th	Integrated Science	Education	24	36.00	78.00	42.00	-42.00	1764.00
Classroom 133	5th	Language Arts	Education	24	23.00	76.00	53.00	-53.00	2809.00
Classroom 134	5th	Language Arts	Education	31	45.00	91.00	46.00	-46.00	2116.00
Classroom 135	5th	Language Arts	Education	23	11.00	42.00	31.00	-31.00	961.00
Classroom 136	5th	Language Arts	Education	25	9.00	88.00	79.00	-79.00	6241.00
Classroom 137	5th	Language Arts	Education	21	36.00	68.00	32.00	-32.00	1024.00
Classroom 138	5th	Mathematics	Education	27	67.50	68.50	1.00	-1.00	1.00
Classroom 139	5th	Mathematics	Education	11	50.00	79.00	29.00	-29.00	841.00
Classroom 140	5th	Mathematics	Education	31	35.00	76.00	41.00	-41.00	1681.00
Classroom 141	5th	Mathematics	Education	28	23.00	86.00	63.00	-63.00	3969.00
Classroom 142	5th	Mathematics	Education	28	36.00	74.00	38.00	-38.00	1444.00
Classroom 143	5th	Mathematics	Education	26	25.00	88.00	63.00	-63.00	3969.00
Classroom 144	5th	Mathematics	Education	30	36.00	89.00	53.00	-53.00	2809.00
Classroom 145	5th	Mathematics	Education	27	53.00	83.00	30.00	-30.00	900.00
Classroom 146	5th	Mathematics	Education	13	41.00	68.00	27.00	-27.00	729.00
Classroom 147	5th	Mathematics	Education	26	57.00	83.00	26.00	-26.00	676.00
Classroom 148	5th	Mathematics	Education	23	26.00	93.00	67.00	-67.00	4489.00
Classroom 149	5th	Mathematics	Education	27	29.67	68.96	39.29	-39.29	1543.70
Classroom 150	5th	Mathematics	Education	30	48.00	77.00	29.00	-29.00	841.00
Classroom 151	5th	Mathematics	Education	19	51.10	62.40	11.30	-11.30	127.69
Classroom 152	5th	Mathematics	Education	27	77.16	88.60	11.44	-11.44	130.87
Classroom 153	5th	Mathematics	Education	22	38.00	82.72	44.72	-44.72	1999.88
Classroom 154	5th	Mathematics	Education	22	38.89	57.07	18.18	-18.18	330.51
Classroom 155	5th	Mathematics	Education	28	76.00	82.00	6.00	-6.00	36.00
Classroom 156	5th	Mathematics	Education	27	78.00	89.00	11.00	-11.00	121.00
Classroom 157	5th	Mathematics	Education	29	30.00	84.00	54.00	-54.00	2916.00
Classroom 158	5th	Mathematics	Education	24	59.00	90.00	31.00	-31.00	961.00
Classroom 159	5th			28	70.00	83.00	13.00	-13.00	169.00

Number of Tests = N	43	Number of K-12 Students:	1080	Average % Improvement: 36.72	-1579.06	78186.31
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value ($\Sigma d/N$)	-36.72
					M =Middle value	20199.56

$$\frac{\Sigma d}{N}$$

GVSU K-12 Student Impact Data
5th Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
							$t = \frac{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}{\frac{O}{P}}$	O =Bottom Value 1806.00	
								P =Square root of M/O 3.34	
								T = (L/P) -10.98039888	
								∞ = 0.05	Critical T = 1.645
									Significant
								T/Square Root of N = Effect	-1.674

GVSU K-12 Student Impact Data
6th-8th Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 160	6th	English	Education	24	77.50	82.70	5.20	-5.20	27.04
Classroom 161	6th	Group Social Studies	Education	63	47.00	73.00	26.00	-26.00	676.00
Classroom 162	6th	Group Social Studies	Education	28	38.50	72.00	33.50	-33.50	1122.25
Classroom 163	6th	Integrated Science	Education	28	54.00	71.00	17.00	-17.00	289.00
Classroom 164	6th	Integrated Science	Education	23	84.00	94.00	10.00	-10.00	100.00
Classroom 165	6th	Integrated Science	Education	19	45.00	92.00	47.00	-47.00	2209.00
Classroom 166	6th	Mathematics	Education	41	51.50	74.20	22.70	-22.70	515.29
Classroom 167	6th	Music	Education	70	0.00	100.00	100.00	-100.00	10000.00
Classroom 168	6th	Music	Education	35	75.00	89.00	14.00	-14.00	196.00
Classroom 169	6th	Physical Education	Education	50	74.00	100.00	26.00	-26.00	676.00
Classroom 170	6th			165	34.00	86.00	52.00	-52.00	2704.00
Classroom 171	7th	English	Education	80	38.00	84.00	46.00	-46.00	2116.00
Classroom 172	7th	Group Social Studies	Education	82	76.00	81.00	5.00	-5.00	25.00
Classroom 173	7th	Group Social Studies	Education	138	36.00	52.00	16.00	-16.00	256.00
Classroom 174	7th	Music	Education	60	46.00	88.00	42.00	-42.00	1764.00
Classroom 175	7th	Physical Education	Education	134	45.00	89.00	44.00	-44.00	1936.00
Classroom 176	7th			40	74.00	90.00	16.00	-16.00	256.00
Classroom 177	8th	Group Social Studies	Education	64	35.00	82.00	47.00	-47.00	2209.00
Classroom 178	8th	Mathematics	Education	17	33.30	78.00	44.70	-44.70	1998.09
Classroom 179	8th	Music	Education	48	53.00	80.00	27.00	-27.00	729.00
Classroom 180	8th	Music	Education	38	62.50	83.00	20.50	-20.50	420.25

Number of Tests = N	21	Number of K-12 Students:	1247	Average % Improvement: 31.50	-661.60	30223.92
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-31.50
M =Middle value	9380.37
O =Bottom Value	420.00
P =Square root of M/O	4.73
T = (L/P)	-6.666392397
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.455

GVSU K-12 Student Impact Data
9th-12th Results Analysis

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 181	9th	Art	Education	45	36.00	80.00	44.00	-44.00	1936.00
Classroom 182	9th	Biology	Education	94	40.00	83.00	43.00	-43.00	1849.00
Classroom 183	9th	Biology	Education	135	33.30	83.00	49.70	-49.70	2470.09
Classroom 184	9th	Biology	Education	116	39.40	81.40	42.00	-42.00	1764.00
Classroom 185	9th	Earth Science	Education	87	16.00	86.30	70.30	-70.30	4942.09
Classroom 186	9th	English	Education	115	20.95	77.40	56.45	-56.45	3186.60
Classroom 187	9th	French	Education	32	0.00	93.75	93.75	-93.75	8789.06
Classroom 188	9th	Group Social Studies	Education	85	58.00	73.00	15.00	-15.00	225.00
Classroom 189	9th	Music	Education	26	70.00	76.00	6.00	-6.00	36.00
Classroom 190	9th			12	58.00	75.00	17.00	-17.00	289.00
Classroom 191	10th	Earth Science	Education	68	67.00	86.00	19.00	-19.00	361.00
Classroom 192	10th	English	Education	56	50.00	85.00	35.00	-35.00	1225.00
Classroom 193	10th	German	Education	26	25.00	65.00	40.00	-40.00	1600.00
Classroom 194	10th	Group Social Studies	Education	78	37.00	90.00	53.00	-53.00	2809.00
Classroom 195	10th	Group Social Studies	Education	27	46.00	84.20	38.20	-38.20	1459.24
Classroom 196	10th	Group Social Studies	Education	57	59.00	83.00	24.00	-24.00	576.00
Classroom 197	10th	Group Social Studies	Education	59	33.00	66.00	33.00	-33.00	1089.00
Classroom 198	10th	Group Social Studies	Education	70	25.00	92.00	67.00	-67.00	4489.00
Classroom 199	10th	Mathematics	Education	32	3.90	84.00	80.10	-80.10	6416.01
Classroom 200	10th	Mathematics	Education	113	55.00	82.00	27.00	-27.00	729.00
Classroom 201	11th	Group Social Studies	Education	67	67.00	85.00	18.00	-18.00	324.00
Classroom 202	11th	Group Social Studies	Education	119	73.00	82.00	9.00	-9.00	81.00
Classroom 203	11th	Mathematics	Education	28	52.50	82.00	29.50	-29.50	870.25
Classroom 204	11th	Mathematics	Education	61	55.00	72.00	17.00	-17.00	289.00
Classroom 205	11th			20	54.00	77.00	23.00	-23.00	529.00
Classroom 206	12th	English	Education	26	48.00	72.00	24.00	-24.00	576.00
Classroom 207	12th	English	Education	54	65.00	89.00	24.00	-24.00	576.00
Classroom 208	12th	Music	Education	45	7.00	80.00	73.00	-73.00	5329.00
Classroom 209	12th			60	70.00	90.00	20.00	-20.00	400.00

Number of Tests = N	29	Number of K-12 Students:	1813	Average % Improvement: 37.62	-1091.00	55214.35
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-37.62
					M =Middle value	14170.17
					O =Bottom Value	812.00
					P =Square root of M/O	4.18
					T = (L/P)	-9.005694233
					∞ = 0.05	Critical T = 1.645
						Significant
					T/Square Root of N = Effect	-1.672

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

GVSU K-12 Student Impact Data
Art & Music Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 28	Kindergarten	Music	Education	18	25.00	75.00	50.00	-50.00	2500.00
Classroom 54	1st	Music	Education	27	0.00	100.00	100.00	-100.00	10000.00
Classroom 75	2nd	Music	Education	49	0.00	97.00	97.00	-97.00	9409.00
Classroom 167	6th	Music	Education	70	0.00	100.00	100.00	-100.00	10000.00
Classroom 168	6th	Music	Education	35	75.00	89.00	14.00	-14.00	196.00
Classroom 174	7th	Music	Education	60	46.00	88.00	42.00	-42.00	1764.00
Classroom 179	8th	Music	Education	48	53.00	80.00	27.00	-27.00	729.00
Classroom 180	8th	Music	Education	38	62.50	83.00	20.50	-20.50	420.25
Classroom 181	9th	Art	Education	45	36.00	80.00	44.00	-44.00	1936.00
Classroom 189	9th	Music	Education	26	70.00	76.00	6.00	-6.00	36.00
Classroom 208	12th	Music	Education	45	7.00	80.00	73.00	-73.00	5329.00

Number of Tests = N	11	Number of K-12 Students:	461	Average % Improvement: 52.14	-573.50	42319.25
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

L =Top Value (Σd/N)	-52.14
M =Middle value	12419.05
O =Bottom Value	110.00
P =Square root of M/O	10.63
T = (L/P)	-4.906739156
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.479

GVSU K-12 Student Impact Data
Biology Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 182	9th	Biology	Education	94	40.00	83.00	43.00	-43.00	1849.00
Classroom 183	9th	Biology	Education	135	33.30	83.00	49.70	-49.70	2470.09
Classroom 184	9th	Biology	Education	116	39.40	81.40	42.00	-42.00	1764.00

Number of Tests = N	3	Number of K-12 Students:	345	Average % Improvement: 44.90	-134.70	6083.09
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-44.90
M =Middle value	35.06
O =Bottom Value	6.00
P =Square root of M/O	2.42
T = (L/P)	-18.57445203
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-10.724

GVSU K-12 Student Impact Data
CSAT Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 1	Kindergarten	CSAT	Education	18	46.00	63.00	17.00	-17.00	289.00
Classroom 2	Kindergarten	CSAT	Special Education	15	48.00	93.00	45.00	-45.00	2025.00
Classroom 3	Kindergarten	CSAT	Special Education	28	62.00	76.00	14.00	-14.00	196.00
Classroom 4	Kindergarten	CSAT	Special Education	22	39.00	94.00	55.00	-55.00	3025.00
Classroom 5	Kindergarten	CSAT	Special Education	25	36.00	90.00	54.00	-54.00	2916.00
Classroom 6	Kindergarten	CSAT	Special Education	21	67.00	89.00	22.00	-22.00	484.00
Classroom 7	Kindergarten	CSAT	Special Education	21	60.00	95.00	35.00	-35.00	1225.00
Classroom 8	Kindergarten	CSAT	Special Education	23	35.00	66.00	31.00	-31.00	961.00
Classroom 9	Kindergarten	CSAT	Special Education	15	82.00	94.00	12.00	-12.00	144.00
Classroom 10	Kindergarten	CSAT	Special Education	16	6.00	100.00	94.00	-94.00	8836.00
Classroom 11	Kindergarten	CSAT	Special Education	27	74.00	90.67	16.67	-16.67	277.89
Classroom 12	Kindergarten	CSAT	Special Education	22	58.00	76.00	18.00	-18.00	324.00
Classroom 30	1st	CSAT	Special Education	21	35.00	75.00	40.00	-40.00	1600.00
Classroom 31	1st	CSAT	Special Education	25	46.20	81.60	35.40	-35.40	1253.16
Classroom 32	1st	CSAT	Special Education	21	50.00	65.00	15.00	-15.00	225.00
Classroom 33	1st	CSAT	Special Education	19	48.00	78.00	30.00	-30.00	900.00
Classroom 56	2nd	CSAT	Special Education	15	67.40	98.70	31.30	-31.30	979.69
Classroom 57	2nd	CSAT	Special Education	24	73.00	100.00	27.00	-27.00	729.00
Classroom 58	2nd	CSAT	Special Education	23	52.00	71.00	19.00	-19.00	361.00
Classroom 59	2nd	CSAT	Special Education	22	48.00	72.00	24.00	-24.00	576.00
Classroom 60	2nd	CSAT	Special Education	25	53.00	57.00	4.00	-4.00	16.00
Classroom 76	3rd	CSAT	Special Education	25	63.00	86.50	23.50	-23.50	552.25
Classroom 77	3rd	CSAT	Special Education	24	0.00	91.00	91.00	-91.00	8281.00
Classroom 78	3rd	CSAT	Special Education	28	14.00	83.00	69.00	-69.00	4761.00
Classroom 79	3rd	CSAT	Special Education	25	45.00	95.00	50.00	-50.00	2500.00
Classroom 80	3rd	CSAT	Special Education	26	37.00	83.00	46.00	-46.00	2116.00
Classroom 81	3rd	CSAT	Special Education	22	54.00	91.00	37.00	-37.00	1369.00
Classroom 82	3rd	CSAT	Special Education	26	28.00	82.00	54.00	-54.00	2916.00
Classroom 83	3rd	CSAT	Special Education	24	61.00	93.00	32.00	-32.00	1024.00
Classroom 98	4th	CSAT	Special Education	24	40.00	65.00	25.00	-25.00	625.00
Classroom 99	4th	CSAT	Special Education	27	62.50	38.50	-24.00	24.00	576.00
Classroom 100	4th	CSAT	Special Education	28	60.00	75.00	15.00	-15.00	225.00
Classroom 101	4th	CSAT	Special Education	23	78.00	80.00	2.00	-2.00	4.00
Classroom 102	4th	CSAT	Special Education	20	38.00	83.00	45.00	-45.00	2025.00
Classroom 117	5th	CSAT	Special Education	24	46.00	92.00	46.00	-46.00	2116.00
Classroom 118	5th	CSAT	Special Education	27	28.00	52.00	24.00	-24.00	576.00
Classroom 119	5th	CSAT	Special Education	27	50.20	57.20	7.00	-7.00	49.00
Classroom 120	5th	CSAT	Special Education	25	3.00	77.00	74.00	-74.00	5476.00

Number of Tests = N	38	Number of K-12 Students:	873	Average % Improvement: 33.05	-1255.87	62533.99
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-33.05
					M =Middle value	21028.48
					O =Bottom Value	1406.00
					P =Square root of M/O	3.87
					T = (L/P)	-8.545743263
					∞ = 0.05	Critical T = 1.645

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

GVSU K-12 Student Impact Data
CSAT Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
									Significant
								T/Square Root of N = Effect	-1.386

GVSU K-12 Student Impact Data
Earth Science Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 185	9th	Earth Science	Education	87	16.00	86.30	70.30	-70.30	4942.09
Classroom 191	10th	Earth Science	Education	68	67.00	86.00	19.00	-19.00	361.00

Number of Tests = N	2	Number of K-12 Students:	155	Average % Improvement: 44.65	-89.30	5303.09
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-44.65
M =Middle value	1315.85
O =Bottom Value	2.00
P =Square root of M/O	25.65
T = (L/P)	-1.740740741
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.231

GVSU K-12 Student Impact Data
English Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 160	6th	English	Education	24	77.50	82.70	5.20	-5.20	27.04
Classroom 171	7th	English	Education	80	38.00	84.00	46.00	-46.00	2116.00
Classroom 186	9th	English	Education	115	20.95	77.40	56.45	-56.45	3186.60
Classroom 192	10th	English	Education	56	50.00	85.00	35.00	-35.00	1225.00
Classroom 206	12th	English	Education	26	48.00	72.00	24.00	-24.00	576.00
Classroom 207	12th	English	Education	54	65.00	89.00	24.00	-24.00	576.00

Number of Tests = N	6	Number of K-12 Students:	355	Average % Improvement: 31.78	-190.65	7706.64
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

L =Top Value (Σd/N)	-31.78
M =Middle value	1648.74
O =Bottom Value	30.00
P =Square root of M/O	7.41
T = (L/P)	-4.286178604
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.750

GVSU K-12 Student Impact Data
Foreign Languages Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 187	9th	French	Education	32	0.00	93.75	93.75	-93.75	8789.06
Classroom 193	10th	German	Education	26	25.00	65.00	40.00	-40.00	1600.00

Number of Tests = N	2	Number of K-12 Students:	58	Average % Improvement: 66.88	-133.75	10389.06
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-66.88
M =Middle value	1444.53
O =Bottom Value	2.00
P =Square root of M/O	26.88
T = (L/P)	-2.488372093
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.760

GVSU K-12 Student Impact Data
Group Social Studies Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 13	Kindergarten	Group Social Studies	Education	17	62.00	81.00	19.00	-19.00	361.00
Classroom 34	1st	Group Social Studies	Education	19	61.00	79.00	18.00	-18.00	324.00
Classroom 35	1st	Group Social Studies	Education	22	45.50	68.20	22.70	-22.70	515.29
Classroom 36	1st	Group Social Studies	Education	21	61.90	87.50	25.60	-25.60	655.36
Classroom 37	1st	Group Social Studies	Education	25	19.00	49.00	30.00	-30.00	900.00
Classroom 38	1st	Group Social Studies	Education	18	6.00	67.00	61.00	-61.00	3721.00
Classroom 39	1st	Group Social Studies	Education	23	60.00	72.00	12.00	-12.00	144.00
Classroom 40	1st	Group Social Studies	Education	24	29.00	92.00	63.00	-63.00	3969.00
Classroom 61	2nd	Group Social Studies	Education	27	82.00	94.00	12.00	-12.00	144.00
Classroom 84	3rd	Group Social Studies	Education	24	36.23	82.45	46.22	-46.22	2136.29
Classroom 85	3rd	Group Social Studies	Education	19	72.00	82.00	10.00	-10.00	100.00
Classroom 86	3rd	Group Social Studies	Education	25	57.30	86.00	28.70	-28.70	823.69
Classroom 87	3rd	Group Social Studies	Education	24	82.00	86.00	4.00	-4.00	16.00
Classroom 88	3rd	Group Social Studies	Education	27	9.00	63.80	54.80	-54.80	3003.04
Classroom 89	3rd	Group Social Studies	Education	22	36.96	40.09	3.13	-3.13	9.80
Classroom 90	3rd	Group Social Studies	Education	17	24.00	56.00	32.00	-32.00	1024.00
Classroom 103	4th	Group Social Studies	Education	18	66.60	92.50	25.90	-25.90	670.81
Classroom 104	4th	Group Social Studies	Education	22	39.00	84.00	45.00	-45.00	2025.00
Classroom 105	4th	Group Social Studies	Education	16	44.00	55.00	11.00	-11.00	121.00
Classroom 106	4th	Group Social Studies	Education	23	21.00	93.00	72.00	-72.00	5184.00
Classroom 121	5th	Group Social Studies	Education	17	62.00	68.80	6.80	-6.80	46.24
Classroom 122	5th	Group Social Studies	Education	24	68.00	80.00	12.00	-12.00	144.00
Classroom 123	5th	Group Social Studies	Education	21	35.89	58.79	22.90	-22.90	524.41
Classroom 124	5th	Group Social Studies	Education	25	21.00	67.00	46.00	-46.00	2116.00
Classroom 125	5th	Group Social Studies	Education	21	54.00	94.00	40.00	-40.00	1600.00
Classroom 126	5th	Group Social Studies	Education	36	47.00	94.00	47.00	-47.00	2209.00
Classroom 127	5th	Group Social Studies	Education	22	2.00	82.00	80.00	-80.00	6400.00
Classroom 128	5th	Group Social Studies	Education	27	35.00	50.00	15.00	-15.00	225.00
Classroom 161	6th	Group Social Studies	Education	63	47.00	73.00	26.00	-26.00	676.00
Classroom 162	6th	Group Social Studies	Education	28	38.50	72.00	33.50	-33.50	1122.25
Classroom 172	7th	Group Social Studies	Education	82	76.00	81.00	5.00	-5.00	25.00
Classroom 173	7th	Group Social Studies	Education	138	36.00	52.00	16.00	-16.00	256.00
Classroom 177	8th	Group Social Studies	Education	64	35.00	82.00	47.00	-47.00	2209.00
Classroom 188	9th	Group Social Studies	Education	85	58.00	73.00	15.00	-15.00	225.00
Classroom 194	10th	Group Social Studies	Education	78	37.00	90.00	53.00	-53.00	2809.00
Classroom 195	10th	Group Social Studies	Education	27	46.00	84.20	38.20	-38.20	1459.24
Classroom 196	10th	Group Social Studies	Education	57	59.00	83.00	24.00	-24.00	576.00
Classroom 197	10th	Group Social Studies	Education	59	33.00	66.00	33.00	-33.00	1089.00
Classroom 198	10th	Group Social Studies	Education	70	25.00	92.00	67.00	-67.00	4489.00
Classroom 201	11th	Group Social Studies	Education	67	67.00	85.00	18.00	-18.00	324.00
Classroom 202	11th	Group Social Studies	Education	119	73.00	82.00	9.00	-9.00	81.00

Number of Tests = N	41	Number of K-12 Students:	1563	Average % Improvement: 30.50	-1250.45	54452.42
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-30.50
					M =Middle value	16315.22
					O =Bottom Value	1640.00
					P =Square root of M/O	3.15

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2}{N} - \left(\frac{\sum d}{N}\right)^2}}$$

GVSU K-12 Student Impact Data
Group Social Studies Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
							$\sqrt{\frac{N}{N(N-1)}}$	T = (L/P)	-9.66958854
								∞ = 0.05	Critical T = 1.645
									Significant
								T/Square Root of N = Effect	-1.510

GVSU K-12 Student Impact Data
Integrated Science Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 14	Kindergarten	Integrated Science	Education	20	54.00	97.00	43.00	-43.00	1849.00
Classroom 41	1st	Integrated Science	Education	23	84.00	96.00	12.00	-12.00	144.00
Classroom 42	1st	Integrated Science	Education	14	51.00	82.50	31.50	-31.50	992.25
Classroom 43	1st	Integrated Science	Education	21	27.60	92.60	65.00	-65.00	4225.00
Classroom 44	1st	Integrated Science	Education	26	65.00	81.00	16.00	-16.00	256.00
Classroom 45	1st	Integrated Science	Education	20	58.00	88.00	30.00	-30.00	900.00
Classroom 46	1st	Integrated Science	Education	26	76.00	93.00	17.00	-17.00	289.00
Classroom 62	2nd	Integrated Science	Education	26	86.50	90.90	4.40	-4.40	19.36
Classroom 63	2nd	Integrated Science	Education	24	84.30	93.20	8.90	-8.90	79.21
Classroom 64	2nd	Integrated Science	Education	18	66.00	84.00	18.00	-18.00	324.00
Classroom 65	2nd	Integrated Science	Education	23	44.00	63.00	19.00	-19.00	361.00
Classroom 66	2nd	Integrated Science	Education	20	88.00	92.00	4.00	-4.00	16.00
Classroom 67	2nd	Integrated Science	Education	21	49.52	85.00	35.48	-35.48	1258.83
Classroom 68	2nd	Integrated Science	Education	17	45.00	63.00	18.00	-18.00	324.00
Classroom 69	2nd	Integrated Science	Education	23	70.00	75.00	5.00	-5.00	25.00
Classroom 70	2nd	Integrated Science	Education	27	27.00	72.00	45.00	-45.00	2025.00
Classroom 91	3rd	Integrated Science	Education	21	24.00	80.00	56.00	-56.00	3136.00
Classroom 107	4th	Integrated Science	Education	29	32.00	74.00	42.00	-42.00	1764.00
Classroom 108	4th	Integrated Science	Education	19	58.00	82.00	24.00	-24.00	576.00
Classroom 109	4th	Integrated Science	Education	28	49.00	71.00	22.00	-22.00	484.00
Classroom 110	4th	Integrated Science	Education	26	59.00	80.00	21.00	-21.00	441.00
Classroom 129	5th	Integrated Science	Education	30	47.00	78.00	31.00	-31.00	961.00
Classroom 130	5th	Integrated Science	Education	29	40.00	90.00	50.00	-50.00	2500.00
Classroom 131	5th	Integrated Science	Education	24	4.17	91.60	87.43	-87.43	7644.00
Classroom 132	5th	Integrated Science	Education	24	36.00	78.00	42.00	-42.00	1764.00
Classroom 163	6th	Integrated Science	Education	28	54.00	71.00	17.00	-17.00	289.00
Classroom 164	6th	Integrated Science	Education	23	84.00	94.00	10.00	-10.00	100.00
Classroom 165	6th	Integrated Science	Education	19	45.00	92.00	47.00	-47.00	2209.00

Number of Tests = N	28	Number of K-12 Students:	649	Average % Improvement: 29.35	-821.71	34955.66
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-29.35
M =Middle value	10841.11
O =Bottom Value	756.00
P =Square root of M/O	3.79
T = (L/P)	-7.749694865
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.465

GVSU K-12 Student Impact Data
Language Arts Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 15	Kindergarten	Language Arts	Education	23	30.00	83.00	53.00	-53.00	2809.00
Classroom 16	Kindergarten	Language Arts	Education	25	19.00	80.00	61.00	-61.00	3721.00
Classroom 17	Kindergarten	Language Arts	Education	20	45.00	70.00	25.00	-25.00	625.00
Classroom 18	Kindergarten	Language Arts	Education	23	66.00	89.00	23.00	-23.00	529.00
Classroom 19	Kindergarten	Language Arts	Education	22	75.00	89.00	14.00	-14.00	196.00
Classroom 20	Kindergarten	Language Arts	Education	17	69.00	80.00	11.00	-11.00	121.00
Classroom 21	Kindergarten	Language Arts	Education	24	94.00	98.00	4.00	-4.00	16.00
Classroom 22	Kindergarten	Language Arts	Education	20	67.00	84.00	17.00	-17.00	289.00
Classroom 23	Kindergarten	Language Arts	Education	23	67.00	71.00	4.00	-4.00	16.00
Classroom 24	Kindergarten	Language Arts	Education	21	65.00	71.00	6.00	-6.00	36.00
Classroom 25	Kindergarten	Language Arts	Education	23	67.39	90.21	22.82	-22.82	520.75
Classroom 26	Kindergarten	Language Arts	Education	24	54.20	86.10	31.90	-31.90	1017.61
Classroom 47	1st	Language Arts	Education	22	60.00	85.00	25.00	-25.00	625.00
Classroom 48	1st	Language Arts	Education	25	40.00	60.00	20.00	-20.00	400.00
Classroom 49	1st	Language Arts	Education	21	78.00	93.00	15.00	-15.00	225.00
Classroom 50	1st	Language Arts	Education	24	37.50	72.08	34.58	-34.58	1195.78
Classroom 51	1st	Language Arts	Education	19	82.00	91.00	9.00	-9.00	81.00
Classroom 52	1st	Language Arts	Education	18	42.50	98.00	55.50	-55.50	3080.25
Classroom 53	1st	Language Arts	Education	27	20.00	97.00	77.00	-77.00	5929.00
Classroom 71	2nd	Language Arts	Education	22	64.00	77.00	13.00	-13.00	169.00
Classroom 72	2nd	Language Arts	Education	18	70.00	80.00	10.00	-10.00	100.00
Classroom 73	2nd	Language Arts	Education	18	12.00	45.00	33.00	-33.00	1089.00
Classroom 74	2nd	Language Arts	Education	22	75.00	94.00	19.00	-19.00	361.00
Classroom 92	3rd	Language Arts	Education	17	55.70	82.80	27.10	-27.10	734.41
Classroom 93	3rd	Language Arts	Education	26	25.00	95.00	70.00	-70.00	4900.00
Classroom 94	3rd	Language Arts	Education	26	49.80	89.90	40.10	-40.10	1608.01
Classroom 95	3rd	Language Arts	Education	25	39.36	85.88	46.52	-46.52	2164.11
Classroom 96	3rd	Language Arts	Education	22	50.40	88.00	37.60	-37.60	1413.76
Classroom 97	3rd	Language Arts	Education	23	75.40	82.00	6.60	-6.60	43.56
Classroom 111	4th	Language Arts	Education	28	43.00	86.00	43.00	-43.00	1849.00
Classroom 112	4th	Language Arts	Education	44	65.00	75.00	10.00	-10.00	100.00
Classroom 113	4th	Language Arts	Education	24	28.00	77.00	49.00	-49.00	2401.00
Classroom 114	4th	Language Arts	Education	27	33.00	85.00	52.00	-52.00	2704.00
Classroom 115	4th	Language Arts	Education	18	50.00	71.00	21.00	-21.00	441.00
Classroom 116	4th	Language Arts	Education	19	48.00	89.00	41.00	-41.00	1681.00
Classroom 133	5th	Language Arts	Education	24	23.00	76.00	53.00	-53.00	2809.00
Classroom 134	5th	Language Arts	Education	31	45.00	91.00	46.00	-46.00	2116.00
Classroom 135	5th	Language Arts	Education	23	11.00	42.00	31.00	-31.00	961.00
Classroom 136	5th	Language Arts	Education	25	9.00	88.00	79.00	-79.00	6241.00
Classroom 137	5th	Language Arts	Education	21	36.00	68.00	32.00	-32.00	1024.00

Number of Tests = N	40	Number of K-12 Students:	924	Average % Improvement: 31.72	-1268.72	56342.24
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-31.72
					M =Middle value	16100.98
					O =Bottom Value	1560.00
					P =Square root of M/O	3.21

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2}{N} - \left(\frac{\sum d}{N}\right)^2}}$$

GVSU K-12 Student Impact Data
Language Arts Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
							$\sqrt{\frac{N}{N(N-1)}}$	T = (L/P)	-9.872836898
								∞ = 0.05	Critical T = 1.645
									Significant
								T/Square Root of N = Effect	-1.561

GVSU K-12 Student Impact Data
Mathematics Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 27	Kindergarten	Mathematics	Education	15	16.00	94.00	78.00	-78.00	6084.00
Classroom 138	5th	Mathematics	Education	27	67.50	68.50	1.00	-1.00	1.00
Classroom 139	5th	Mathematics	Education	11	50.00	79.00	29.00	-29.00	841.00
Classroom 140	5th	Mathematics	Education	31	35.00	76.00	41.00	-41.00	1681.00
Classroom 141	5th	Mathematics	Education	28	23.00	86.00	63.00	-63.00	3969.00
Classroom 142	5th	Mathematics	Education	28	36.00	74.00	38.00	-38.00	1444.00
Classroom 143	5th	Mathematics	Education	26	25.00	88.00	63.00	-63.00	3969.00
Classroom 144	5th	Mathematics	Education	30	36.00	89.00	53.00	-53.00	2809.00
Classroom 145	5th	Mathematics	Education	27	53.00	83.00	30.00	-30.00	900.00
Classroom 146	5th	Mathematics	Education	13	41.00	68.00	27.00	-27.00	729.00
Classroom 147	5th	Mathematics	Education	26	57.00	83.00	26.00	-26.00	676.00
Classroom 148	5th	Mathematics	Education	23	26.00	93.00	67.00	-67.00	4489.00
Classroom 149	5th	Mathematics	Education	27	29.67	68.96	39.29	-39.29	1543.70
Classroom 150	5th	Mathematics	Education	30	48.00	77.00	29.00	-29.00	841.00
Classroom 151	5th	Mathematics	Education	19	51.10	62.40	11.30	-11.30	127.69
Classroom 152	5th	Mathematics	Education	27	77.16	88.60	11.44	-11.44	130.87
Classroom 153	5th	Mathematics	Education	22	38.00	82.72	44.72	-44.72	1999.88
Classroom 154	5th	Mathematics	Education	22	38.89	57.07	18.18	-18.18	330.51
Classroom 155	5th	Mathematics	Education	28	76.00	82.00	6.00	-6.00	36.00
Classroom 156	5th	Mathematics	Education	27	78.00	89.00	11.00	-11.00	121.00
Classroom 157	5th	Mathematics	Education	29	30.00	84.00	54.00	-54.00	2916.00
Classroom 158	5th	Mathematics	Education	24	59.00	90.00	31.00	-31.00	961.00
Classroom 166	6th	Mathematics	Education	41	51.50	74.20	22.70	-22.70	515.29
Classroom 178	8th	Mathematics	Education	17	33.30	78.00	44.70	-44.70	1998.09
Classroom 199	10th	Mathematics	Education	32	3.90	84.00	80.10	-80.10	6416.01
Classroom 200	10th	Mathematics	Education	113	55.00	82.00	27.00	-27.00	729.00
Classroom 203	11th	Mathematics	Education	28	52.50	82.00	29.50	-29.50	870.25
Classroom 204	11th	Mathematics	Education	61	55.00	72.00	17.00	-17.00	289.00

Number of Tests = N	28	Number of K-12 Students:	832	Average % Improvement: 35.46	-992.93	47417.30
					"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
					L =Top Value (Σd/N)	-35.46
					M =Middle value	12206.23
					O =Bottom Value	756.00
					P =Square root of M/O	4.02
					T = (L/P)	-8.825326205
					∞ = 0.05	Critical T = 1.645
						Significant
					T/Square Root of N = Effect	-1.668

$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

GVSU K-12 Student Impact Data
Physical Education Results

Classroom Sample	Grade Level Assessed	Major1	Major2	Number K12	Pre-SCORE (X)	Post-SCORE 2 (Y)	"Y-X" Change	"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
Classroom 29	Kindergarten	Physical Education	Education	25	0.00	100.00	100.00	-100.00	10000.00
Classroom 169	6th	Physical Education	Education	50	74.00	100.00	26.00	-26.00	676.00
Classroom 175	7th	Physical Education	Education	134	45.00	89.00	44.00	-44.00	1936.00

Number of Tests = N	3	Number of K-12 Students:	209	Average % Improvement: 56.67	-170.00	12612.00
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$$t = \frac{\frac{\sum d}{N}}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{N}}{N(N-1)}}$$

"X-Y" or "ED"	"(X-Y)^2" or "ED^2"
L =Top Value (Σd/N)	-56.67
M =Middle value	2978.67
O =Bottom Value	6.00
P =Square root of M/O	22.28
T = (L/P)	-2.543269243
∞ = 0.05	Critical T = 1.645
	Significant
T/Square Root of N = Effect	-1.468