



# CAEP Annual Reporting Measures (Component 5.4 I A.5.4) 2017/2018

Impact Measures (CAEP Standard 4)	Outcome Measures
1. Impact on P-12 learning and development (Component 4.1)	5. Graduation Rates (initial & advanced levels)
2. Indicators of teaching effectiveness (Component 4.2)	6. Ability of completers to meet licensing (certification) and any additional state requirements; Title II (initial & advanced levels)
3. Satisfaction of employers and employment milestones (Components 4.3   A.4.1)	7. Ability of completers to be hired in education positions for which they have prepared (initial & advanced levels)
4. Satisfaction of completers (Components 4.4   A.4.2)	8. Student loan default rates and other consumer information (initial & advanced levels)

## Impact Measures (CAEP Standard 4)

### 1. Impact on P-12 learning and development

The EPP demonstrates through multiple measures that completers contribute to expected levels of student learning growth. The initial set of names of completers and associated employers was gathered from the Teaching, Learning and Curriculum Department at Andrews University. Additionally, in collaboration with the Office of Education at the North American Division of Seventh-day Adventists, further details were gathered regarding completer’s employment during the following school years: 2016-2017. Specifically, the data obtained were names of completers, years taught, schools of employment, and subjects taught during those years. These names with their associated components were checked against university records as a reliability check and confirmed.

Multiple measures using available ITBS scores in various subject areas (i.e., composite scores and subject areas in Science, Mathematics, Language Arts, and Social Studies) ([Link to Evidence](#))

4.1a, 4.1b, 4.1c, 4.1d, 4.1e) were collected across multiple locations and school years to measure whether completers contributed to their students expected academic growth. Scores were available for schools in the Adventist school system in the United States, where most of our completers are employed. The ITBS test scores for students were analyzed in connection to their teachers (the completers) in order to measure whether students were progressing at expected levels of growth.

We collected available pre- and post- ITBS scores for students taught by our completers and had ITBS scores available for the 2016-17 school year.

In our analysis, we set as a baseline expectation that students would demonstrate knowledge within  $\pm 1$  SD of the national normal curve equivalent (NCE) mean on the ITBS, which equates to national percentile rank (NPR) medians between 20 and 80. Additionally, in order to measure expected levels of student learning, we compared students' NCE before the completer taught the student to the student's NCE subsequent to instruction by the completer. If the NCE post-score was not statistically significantly different from the NCE pre-score, then the assumption was that the student demonstrated, the expected level of student-learning under the completer's instruction.

Multiple measures collected including composite scores and subject areas in Science, Mathematics, Language Arts, and Social Studies. The *Ns* are the number of students who had scores for the specific measures in two consecutive years. The mean and median scores show the central tendency of outcome from the student population analyzed, and the Cohen's *D* shows the effect size of the difference between the students' pre- and post-scores.

In general, differences in NCE scores observed from one year to another are within the margin of error and might be attributed to random error and minor fluctuation in scores. The findings from this collection indicate that students are therefore progressing and learning as expected under the teaching of our completers and their NPRs were within the baseline expectation (i.e., within  $\pm 1$  SD of the national NCE mean on the ITBS with all students' NPR medians between 20 and 80).

Specifically, the data show no significant negative or positive differences from comparative years in 2014-15, 2015-16, and 2016-17 in composite, Mathematics, Language Arts, or Social Studies scores, which indicates expected student-learning growth during these years in these subjects. The single exception is in Science during 2014-15, when there was a positive effect evident in significantly higher post-scores on NCEs after instruction by our completers (Cohen's  $D = 0.43$ ), which indicates greater-than-expected student-learning growth during the 2014-15 academic year in Science.

### *Interpretation*

Given the above findings, we conclude that the students of our completers who teach in either the SDA education system or Michigan public school system are performing at expected levels or higher.

Table 1a

*Number of Participants per Institution and Year for Composite ITBS Score Calculations*

School Name	Years			
	2014	2015	2016	2017
Alpine Christian	0	7	2	0
First Flint Elementary	4	6	7	4
Indianapolis Jr. Academy	10	15	0	0
Ithaca Elementary	2	3	6	2
Kalamazoo Jr. Academy	3	3	0	0
Miami Gardens WAKJA	15	19	0	0
Oakhurst	7	7	6	1
Milwaukee SDA School	0	0	36	42
Pittsford Elementary	0	3	3	3
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Warren Elementary	0	13	11	14
Total	41	82	86	73

Table 1b

*Number of Participants per Institution and Year for Science ITBS Score Calculations*

School Name	Years			
	2014	2015	2016	2017
ACA Raleigh	0	0	6	10
Alpine Christian	0	7	2	0
First Flint Elementary	4	6	7	4
Indianapolis Jr. Academy	10	15	0	0
Ithaca Elementary	2	3	6	2
Kalamazoo Jr. Academy	3	3	0	0
Miami Gardens WAKJA	15	19	0	0
Oakhurst	7	7	6	1
Milwaukee SDA School	0	0	36	42
Pittsford Elementary	0	3	3	3
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Berrien Springs	0	34	53	42
Warren Elementary	0	0	11	14
Total	41	103	145	125

Table 1c

*Number of Participants per Institution and Year for Language Arts ITBS Score Calculations*

School Name	Years			
	2014	2015	2016	2017
ACA Raleigh	0	0	1	4
Alpine Christian	0	7	2	0
First Flint Elementary	4	6	7	4
Indianapolis Jr. Academy	10	15	0	0
Ithaca Elementary	2	3	6	2
Kalamazoo Jr. Academy	3	3	0	0
Miami Gardens WAKJA	15	19	0	0
Oakhurst	7	7	6	1
Milwaukee SDA School	0	0	36	42
Pittsford Elementary	0	3	3	3
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Berrien Springs	0	14	31	17
Warren Elementary	0	0	11	14
Total	41	83	118	94

Table 1d

*Number of Participants per Institution and Year for Mathematics ITBS Score Calculations*

School Name	Years			
	2014	2015	2016	2017
ACA Raleigh	0	0	1	4
Alpine Christian	0	7	2	0
Battle Creek Academy	8	15	8	0
First Flint Elementary	4	6	7	4
Indianapolis Jr. Academy	10	15	0	0
Ithaca Elementary	2	3	6	2
Kalamazoo Jr. Academy	3	3	0	0
Miami Gardens WAKJA	15	19	0	0
Oakhurst	7	7	6	1
Midland Adventist Academy	0	0	11	11
Milwaukee SDA School	0	0	36	42
Pittsford Elementary	0	3	3	3
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Berrien Springs	0	14	31	17
Warren Elementary	0	0	11	14
Total	49	98	137	105

Table 1e

*Number of Participants per Institution and Year for Social Studies ITBS Score Calculations*

School Name	Years			
	2014	2015	2016	2017
ACA Raleigh	0	0	6	10
Alpine Christian	0	7	2	0
First Flint Elementary	4	6	7	4
Indianapolis Jr. Academy	10	15	0	0
Ithaca Elementary	2	3	6	2
Kalamazoo Jr. Academy	3	3	0	0
Miami Gardens WAKJA	15	19	0	0
Oakhurst	7	7	6	1
Milwaukee SDA School	0	0	36	42
Pittsford Elementary	0	3	3	3
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Roseburg Jr Academy	0	0	10	7
Tri City Jr Academy	0	6	5	0
Warren Elementary	0	0	11	14
Total	41	69	92	83

Table 2

*Change in students of completers score in ITBS measure as NCE Mean and NP Median for years between 2014 and 2017 by Composite, Science, Language-arts, and Mathematics.*

<b>Outcome</b>	<b>Comparison's years</b>	<b>N</b>	<b>NCE with computation Mean</b>	<b>Cohen's D</b>	<b>NP Rank with computation Median</b>
Composite	2014-2015	33	40.67 – 42.03	0.18	34.00 – 35.00
	2015-2016	21	39.62 – 38.19	0.16	45.00 – 28.00
	2016-2017	51	45.08 – 45.75	0.09	43.00 – 40.00
Science	2014-2015	33	42.45 – 48.76	0.43*	39.00 – 49.00
	2015-2016	36	51.36 – 53.08	0.14	53.00 – 48.00
	2016-2017	89	51.24 – 50.73	0.04	49.00 – 45.00
Language-Arts	2014-2015	33	43.06 – 40.94	0.21	37.00 – 25.00
	2015-2016	23	48.09 – 45.04	0.29	50.00 - 46.00
	2016-2017	65	51.31 – 52.08	0.08	53.00 – 57.00
Mathematics	2014-2015	39	39.92 – 39.77	0.01	34.00 – 35.00
	2015-2016	30	46.10 – 45.87	0.03	43.50 – 42.50
	2016-2017	75	43.57 – 44.64	0.12	38.00 – 39.00
Social Studies	2014-2015	33	47.09 – 45.36	0.13	40.00 – 33.00
	2015-2016	15	39.07 – 44.60	0.30	30.00 – 38.00
	2016-2017	55	46.91 – 49.07	0.16	42.0 – 47.00

\*T-test value sig <.05