

The Impact of Certified Basic Skills Instructors on Student Outcomes

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All federally funded, state administered adult education programs are required by law to report accountability data to the National Reporting System (NRS) for the program year. Beginning with the 2012-13 program year, NRS began requiring all states to report the number of paid, full and part time adult literacy teachers who were currently certified in each of the following areas: Adult Education, K-12, Special Education, and Teachers of English to Speakers of Other Languages (TESOL). In response to this requirement, the North Carolina Community College System's College and Career Readiness department developed an Adult Education Certification that can be earned by either the completion of trainings through NC State University and Appalachian State University or by receipt of a degree in a field directly related to Adult Education.

The North Carolina Community College System's College and Career Readiness department in conjunction with Research and Performance Management began exploring the impact of these certifications on student outcomes in July 2013. Preliminary studies were conducted on scale score gains for Adult Basic Education and Adult Secondary Education students taking the Test of Adult Basic Education (TABE) test in 2012-13. Results showed a small positive effect for certified instructors. However, once the 2013-14 data were available in August 2014 a larger study was conducted to determine if those students taught by certified teachers only had more level gains than those students taught by uncertified teachers only. The results of this study are explored in this paper.

The National Reporting System defines educational gain as the method to measure improvement in basic literacy skills. Each year students in Basic Skills with 12 or more total contact hours take a NRS approved standardized test that measures their abilities in basic literacy skills. As a result of the test(s), students are placed into an Educational Functioning Level (EFL) based upon the test, subject, and score. The pre-test with the lowest EFL is known as the student's initial placement for the program year (Division of Adult Education and Literacy Office of Vocational and Adult Education, 2015).

There are four Adult Basic Education EFL's that encompass students functioning up to the 8th grade level, two Adult Secondary Education EFL's that encompass 9th – 12th grade, and six English as a Second Language EFL's. Students who are in the High Adult Secondary Education Level cannot make a

level gain since this is the highest EFL served in Basic Skills (Division of Adult Education and Literacy Office of Vocational and Adult Education, 2015).

After at least the minimum amount of instruction required by test publishers, students are post-tested on a different form of the same test. If the student receives a score that is at least one EFL above the initial placement test then the student has made a level gain. The percentage of students with 12 or more total contact hours who make level gains are reported to NRS each program year (Division of Adult Education and Literacy Office of Vocational and Adult Education, 2015).

The North Carolina Community College System office receives data four times a year on students who have more than zero contact hours for the 2013-14 program year and have literacy data. Data in this file includes student demographics, student test data, student placement data, and student course registration including start dates, end dates, primary instructor assigned to the class, student attendance hours and grades for each class. In addition, personnel data are included in the file for full time, part time, and volunteer personnel, area of job responsibilities, job function, and years of teaching experience in adult education, and certifications for all employed teachers. Data for this study came from the final 2013-14 program year data that were submitted August 5, 2014.

Methodology

All students who were registered and attended at least 12 total contact hours for the 2013-14 program year and were functioning below the High Adult Secondary Education (ASEH) level were considered for possible inclusion in this study (n = 81,910). Each class the student took was matched to the instructor and if the teacher held a current certification recognized by NRS. Students were divided into three groups:

- 1) Students who had been taught only by certified teachers;
- 2) Students who had been taught only by non-certified teachers;
- 3) Students who had been taught by both certified teachers and non-certified teachers.

Those students who had been taught by both certified and non-certified teachers were excluded from this study to ensure the two groups compared were distinct. This left a total of 59,331 students who included in the study (72% of the NRS reportable students in these 11 EFLs). Students were only counted once in each group, so any student who took more than one class was only counted once. This study did not include any teachers who had known inaccurate certification data such as when a certification was not possible to be attained that program year.

An analysis was done to determine the percentage of students with 12 or more hours making a level gain by their initial placement and overall for each of the groups. An additional analysis was done for all students with at least 40 hours or more of instruction. Forty hours was selected as a minimum to have the cohort narrowed to those students who have at least a minimum number of hours required for most NRS tests. This second analysis had a total of 39,403 students. In both of these groups, not all students had post-tested and thus cannot make a level gain.

Results

Both analyses held promising results of the impact of certified teachers on student outcomes as measured by level gains. Table one provides the percentage of NRS Reportable students with 12 or more hours making a level gain for each EFL and overall for each group of students. This table also gives the 2013-14 NRS Targets for the state of North Carolina. Working with the US Department of Education, each state sets targets for the year by increasing the results met in the previous year for each EFL with the exception of ASEH. Table two provides the same information, but is given for students with 40 or more hours. Table two does not have targets associated with it since NRS only establishes targets for students with 12 or more hours.

Table 1
Percentage of Students with 12 or More Hours Making Level Gains by Certification Status of Instructors

Educational Functioning Level	Taught by Certified Teachers		Taught by Non Certified Teachers		Difference between groups	2013-14 NRS Target
	Count	Percent Making Level Gain	Count	Percent Making Level Gain		
ABE Beginning Literacy *	1391	22%**	3729	14%	8%	18%
ABE Beginning Basic Education	2614	24%	3288	23%	1%	34%
ABE Intermediate Low	5360	34%	6608	34%	0%	37%
ABE Intermediate High	6550	36%**	7277	29%	7%	36%
ASE Low	2624	27%	3449	25%	2%	34%
ESL Beginning Literacy	784	36%	1114	28%	8%	38%
ESL Low Beginning	728	35%	916	38%	-3%	41%
ESL High Beginning	1376	37%	1659	33%	4%	39%
ESL Intermediate Low *	1845	31%	2173	26%	5%	32%
ESL Intermediate High *	1462	30%**	1561	24%	6%	29%
ESL Advanced *	1314	15%**	1364	11%	4%	12%
Total	26048	32%	32148	28%	4%	

Notes: * denotes that the state of North Carolina as a whole met the target in 2013-14 for an EFL.

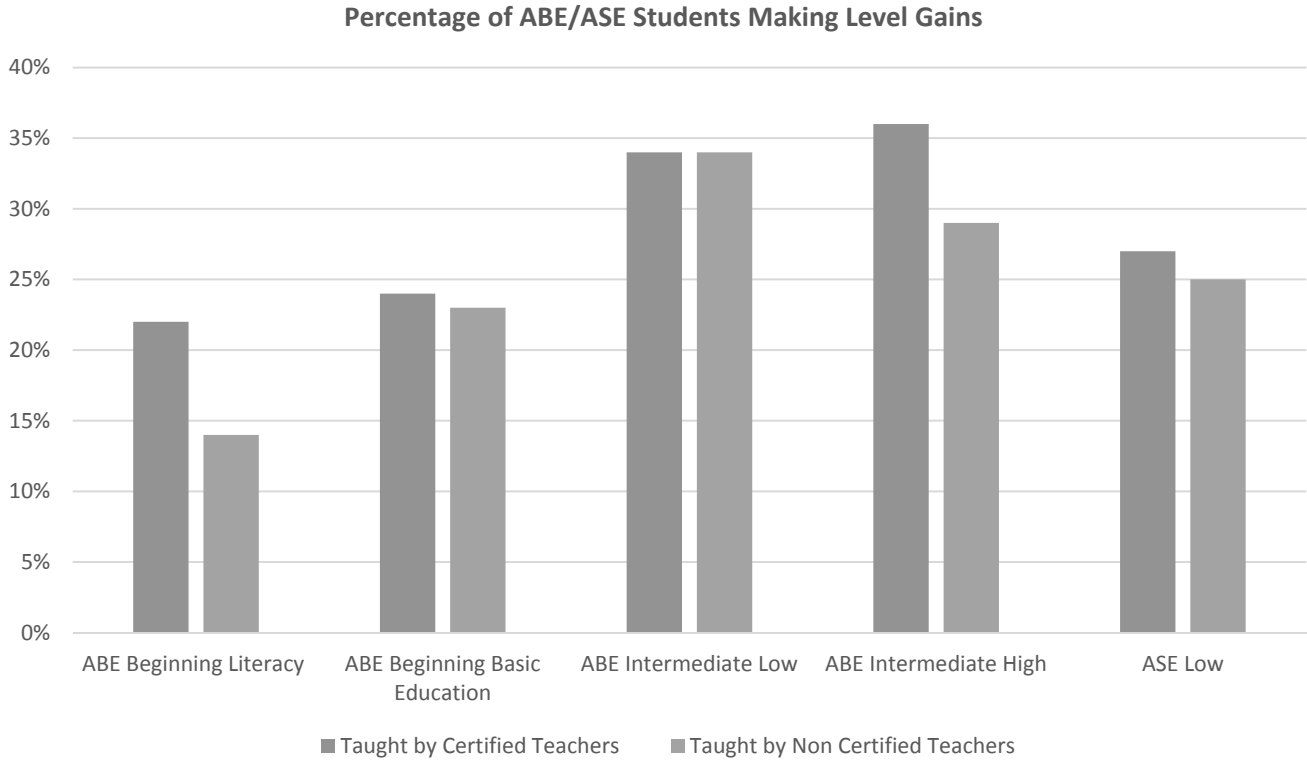
** The group of students met the 2013-14 NRS Target for the EFL.

This tables shows that for all but one EFL, ESL Low Beginning, students taught by certified teachers made more level gains compared to students taught by non-certified teachers. The greatest differences were found in ABE Beginning Literacy, ABE Intermediate High, and ESL Beginning Literacy. Overall, there was a difference between the two groups by 4% with those students taught only by certified teachers experiencing more level gains that students taught by non-certified teachers.

In 2013-14, there were a greater percentage of level gains for each EFL compared to 2012-13. However, the state of North Carolina met four of the eleven targets associated with EFL gains; thus showing there is room for growth and improvement. When looking at the two groups in comparison to the 2013-14 targets, the group of certified teachers met four of the eleven targets but the students taught by non-certified teachers didn't meet any of the 2013-14 targets. Therefore, this study shows promising impacts on student educational gains when taught by personnel with current certifications.

Graphs 1 and 2 provide the percentage of students with 12 or more hours making level gains for the two groups broken up by ABE and ASE students in graph 1 and ESL students in graph 2.

Graph 1



Graph 2

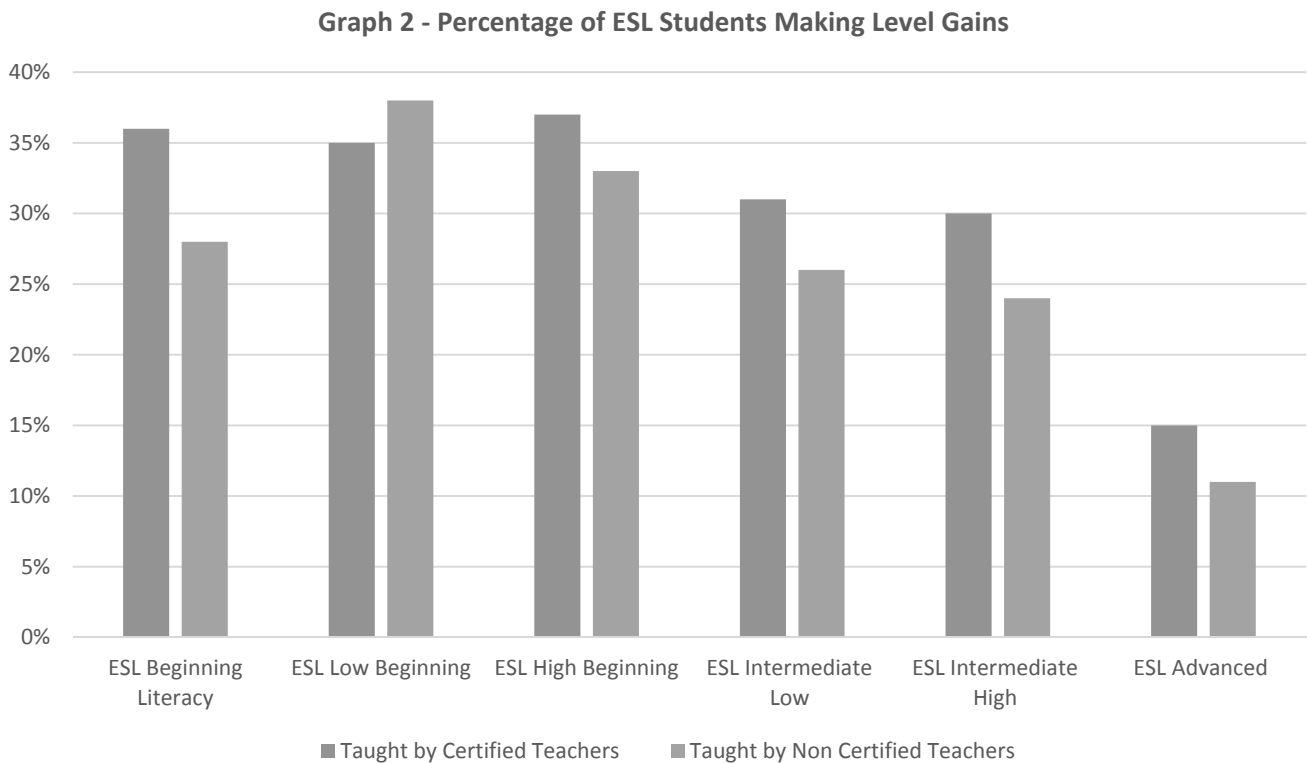


Table 2**Percentage of Students with 40 or More Hours Making Level Gains by Certification Status of Instructors**

Educational Functioning Level	Taught by Certified Teachers		Taught by Non Certified Teachers		Difference between groups
	Count	Percent Making Level Gain	Count	Percent Making Level Gain	
ABE Beginning Literacy	1136	24%	2975	15%	9%
ABE Beginning Basic Education	1623	45%	2320	42%	3%
ABE Intermediate Low	3139	46%	3866	46%	0%
ABE Intermediate High	3256	41%	4414	39%	2%
ASE Low	1414	40%	2014	35%	5%
ESL Beginning Literacy	582	46%	798	38%	8%
ESL Low Beginning	450	49%	602	51%	-2%
ESL High Beginning	911	50%	1059	46%	4%
ESL Intermediate Low	1264	42%	1397	36%	6%
ESL Intermediate High	1005	41%	1005	34%	7%
ESL Advanced	922	21%	922	15%	6%
Total	37403	41%	21372	36%	5%

This table shows that overall those students with 40 or more hours made more level gains when taught by certified teachers than those taught by non-certified teachers with a difference of 5%. For nine of the 11 EFL's, students taught by certified teachers made more level gains than students taught by non-certified teachers. Those students with an initial placement of ABE Intermediate Low had the same percentage of level gains for each group. The same result that was found in this analysis as was found with the NRS Reportable students with 12 or more hours for ESL Low Beginning. For this EFL only, students taught by non-certified teachers had more level gains as compared to students taught by certified teachers. However, the difference was slightly less, 2% compared to 3%. A reason for this EFL to have different results than other EFL's would have to be explored through other methods, both qualitative and quantitative.

Limitations

As with any study, there are limitations in the data. This study is based upon the second year of data. Colleges were worked with when problems were found in the data before the final file was sent. However, it is still possible that the colleges did not record all certifications achieved through North Carolina State University. There is an effort underway to further assist colleges in getting the cleanest data possible for personnel. Once this has been done, further studies can be done to see if the same positive results are achieved. This study is also not designed to show all possible reasons for students making educational gains.

Summary

This study has found evidence to support that certified teachers have greater student outcomes as measured by educational gain compared to the student outcomes of non-certified teachers. For students taught by only certified teachers, level gains were attained by 4% more of the NRS Reportable students than when students were taught only by non-certified teachers. When looking only at students with 40 or more hours, there was a difference of 5% overall across all of the EFL's

with more level gains being achieved by students taught only by certified teachers. While the State of North Carolina has room for improvement in level gains and many things can impact the percentage of students making level gains, this study shows that positive differences are made by employing certified teachers. Further studies could be done to explore differences in retention as well as confirm that the differences found in this study are statistically significant.

References

Division of Adult Education and Literacy Office of Vocational and Adult Education (2015, February). *Implementation Guidelines: Measures and Methods for the National Reporting System for Adult Education*. Retrieved March 7, 2015, from http://www.nrsweb.org/foundations/implementation_guidelines.aspx