Appendices

A: Institutions' scores on the Rigor Standard 2

B: Methodology to analyze grade differences as revealed by honors 10

C: Methodology to analyze coursework 17

D: Converting criterion-deficient assignments to criterion-referenced assignments 27

E: Validating the findings on teacher candidates' grades 31

F: Statistical relationship between course grades and proportion of grades based on criterion-deficient assignments 35

G: Exploring the effects of high grades 37

Appendix A:
Institutions' scores on the Rigor Standard

What consumers need to know about teacher preparation

To learn more about how institutions are scored on this standard, including how the individual indicator is satisfied, please see its scoring methodology.

Teaching is an immensely challenging profession that requires teachers to satisfy a long list of school and curricular demands, meet ever-rising expectations for student performance on state tests, consistently find the instructional sweet spot in a class of diverse students, and make the right choices time after time when faced with a barrage of decisions. To be prepared for these challenges on day one, teachers need to have completed a sufficiently rigorous course of study that mirrors the tough job of teaching.

Our evaluation of institutions on this standard measures the rigor of their preparation as indicated by the grade point average (GPA) differential between graduating teacher candidates and all other graduating students.[1] A failing score on Standard 19 is a signal that teacher candidates earn disproportionately high grades, indicating that a program is not making the demands in training that prepare its graduates for the demands they will face in the classroom.

Scores on Standard 19: Rigor

(N=509 institutions; scores apply to all undergraduate teacher preparation programs included in *Teacher Prep Review 2014* at that institution).

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***	State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
AK	University of Alaska Anchorage	14	◑	AR	Harding University	8	●*
AK	University of Alaska Fairbanks	19	○*	AR	Henderson State University	12	●*
AL	Alabama State University	8	●	AR	John Brown University	-1	●
AL	Athens State University	13	●*	AR	Ouachita Baptist University	2	●
AL	Auburn University	24	○	AR	Southern Arkansas University	31	○*
AL	Troy University	26	○	AR	University of Arkansas – Fort Smith	25	○*
AL	University of Alabama	12	●*	AR	University of Arkansas at Little Rock	19	○*
AL	University of Mobile	3	●*	AZ	Arizona State University	18	◑
AL	University of Montevallo	5	●*	AZ	Northern Arizona University ★	5	●
AL	University of South Alabama	3	●*	AZ	Ottawa University – Phoenix	-3	●*
AR	Arkansas State University	7	●*	CA	California State University – Dominguez Hills	3	●*
AR	Arkansas Tech University	3	●*	CA	Humboldt State University	-2	●*

Legend: ★ Indicates institution is one of 33 institutions included in the analysis of coursework for the *Easy A's* report.
Scores: ● Meets standard; ◑ Partly meets standard; ○ Does not meet standard; * Imputed score derived from less precise data.

1 As explained in the methodology for this standard, the GPA differential is computed as the percentage point difference between the proportion of GPA-based honors for teacher candidates and the proportion of GPA-based honors for all graduating students on the same campus, as cited in brochures for spring undergraduate graduation ceremonies.

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
CA	University of the Pacific	20	○*
CO	Adams State University	30	○
CO	Colorado Christian University	30	○
CO	Colorado Mesa University	12	◑
CO	Colorado State University – Pueblo	-1	●
CO	Metropolitan State University of Denver	-5	●*
CO	University of Northern Colorado	16	◑
CT	Central Connecticut State University	18	○*
CT	Eastern Connecticut State University	-1	●*
CT	University of Hartford	18	○*
CT	Western Connecticut State University	28	○
DC	American University	10	◑
DE	Delaware State University	43	○*
DE	University of Delaware	3	●*
DE	Wilmington University	2	●
FL	Bethune-Cookman University	2	●
FL	Daytona State College	9	●
FL	Edison State College	6	●
FL	Florida Atlantic University ★	20	○*
FL	Florida Gulf Coast University	25	○*
FL	Florida International University	18	○*
FL	Florida Southern College	-1	●*
FL	Florida State College at Jacksonville	-2	●
FL	Florida State University	26	○
FL	Northwest Florida State College	-1	●
FL	Southeastern University	28	○
FL	University of North Florida	31	○
FL	University of South Florida	8	●
FL	University of South Florida St. Petersburg	9	●
FL	University of West Florida	-5	●*
GA	Albany State University	-1	●
GA	Armstrong Atlantic State University	14	●*
GA	Augusta State University (Georgia Regents University Augusta)	-12	●*
GA	Clayton State University	13	◑
GA	Columbus State University	17	◑
GA	Covenant College	-19	●*
GA	Dalton State College	4	●*
GA	Emmanuel College	5	●
GA	Georgia College and State University	20	◑
GA	Georgia Southern University	26	○*
GA	Georgia State University ★	33	○*
GA	Mercer University	14	●*
GA	Middle Georgia State (Macon State) College	11	◑
GA	Reinhardt University	14	●*
GA	University of Georgia	21	○
GA	University of North Georgia (Gainesville State)	16	◑
GA	University of West Georgia ★	11	●
HI	Brigham Young University – Hawaii	-14	●

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
IA	Briar Cliff University	-8	●*
IA	Central College	11	●*
IA	Clarke University	28	○
IA	Grand View University	38	○
IA	Iowa State University	5	●*
IA	Iowa Wesleyan College	12	●*
IA	Loras College	16	○*
IA	Luther College	-4	●*
IA	Northwestern College	-9	●*
IA	St. Ambrose University	29	○
IA	University of Northern Iowa	3	●
IA	Wartburg College	22	○
ID	Boise State University	1	●
ID	Brigham Young University - Idaho	3	●
ID	Idaho State University	8	●
ID	Lewis-Clark State College	7	●
ID	Northwest Nazarene University	21	○
ID	University of Idaho	7	●
IL	Augustana College	5	●
IL	Aurora University	16	◑
IL	Benedictine University	7	●*
IL	Blackburn College	30	○
IL	Bradley University	14	●*
IL	Concordia University Chicago	19	◑
IL	DePaul University	-13	●
IL	Eastern Illinois University	7	●*
IL	Elmhurst College	13	◑
IL	Governors State University	2	●*
IL	Greenville College	10	◑
IL	Illinois College	2	●*
IL	Illinois State University	15	○*
IL	Illinois Wesleyan University	25	○*
IL	Knox College	-7	●
IL	Lewis University	33	○*
IL	Loyola University Chicago	20	◑
IL	McKendree University	42	○
IL	Millikin University	41	○
IL	Monmouth College	-5	●*
IL	North Central College	12	●*
IL	North Park University	28	○*
IL	Northeastern Illinois University	7	●
IL	Northwestern University	1	●*
IL	Olivet Nazarene University	23	○
IL	Rockford College	3	●*
IL	Southern Illinois University Carbondale	7	●*
IL	Southern Illinois University Edwardsville	17	○*
IL	Trinity Christian College	-4	●
IL	University of Illinois at Chicago	19	◑
IL	University of Illinois at Urbana – Champaign ★	0	●*
IL	Western Illinois University	10	●*

** As explained in the methodology for this standard, the GPA differential is computed as the percentage point difference between the proportion of GPA-based honors for teacher candidates and the proportion of GPA-based honors for all graduating students on the same campus, as cited in brochures for spring undergraduate graduation ceremonies. Differentials in the table have been rounded to the nearest percentage point.

*** Scores on the Rigor Standard are based on commencement brochures from 2010 (1 percent of institutions), 2011 (7 percent), 2012 (67 percent), and 2013 (25 percent).

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
IL	Wheaton College	13	◑
IN	Ball State University	10	●*
IN	Bethel College	28	○
IN	Butler University	12	◑
IN	Calumet College of St. Joseph	52	○
IN	Franklin College	-7	●
IN	Indiana State University	17	◑
IN	Indiana University – Bloomington ★	24	○*
IN	Indiana University – Kokomo	3	●*
IN	Indiana University – Northwest	34	○
IN	Indiana University – South Bend	-1	●*
IN	Indiana University – Southeast	-1	●
IN	Indiana University – Purdue University Fort Wayne	3	●*
IN	Indiana University – Purdue University Indianapolis	2	●*
IN	Indiana Wesleyan University	14	◑
IN	Marian University Indianapolis	-6	●*
IN	Purdue University	0	●*
IN	Purdue University – North Central	15	◑
IN	Saint Mary's College	11	◑
IN	Taylor University	15	◑
IN	University of Evansville	6	●*
IN	University of Indianapolis	14	◑
IN	University of Southern Indiana	17	◑
IN	Vincennes University	-2	●
KS	Benedictine College	-1	●
KS	Bethany College	22	○*
KS	Emporia State University ★	16	◑
KS	Fort Hays State University	19	○*
KS	Kansas State University	5	●
KS	MidAmerica Nazarene University	32	○
KS	Ottawa University	1	●*
KS	Pittsburg State University	7	●
KS	Southwestern College	3	●*
KS	Sterling College	26	○
KS	University of Kansas	7	●
KS	Washburn University	24	○*
KS	Wichita State University	12	●*
KY	Campbellsville University	27	○*
KY	Eastern Kentucky University	16	◑
KY	Lindsey Wilson College	14	●*
KY	Murray State University	38	○
KY	Northern Kentucky University	12	●*
KY	Union College	14	◑
KY	University of Kentucky	2	●*
KY	University of Louisville	49	○*
KY	Western Kentucky University	14	●*
LA	Grambling State University	-5	●*
LA	Louisiana State University – Shreveport	0	●*
LA	Louisiana State University and Agricultural & Mechanical College	-1	●*
LA	Louisiana Tech University	11	●*
LA	Nicholls State University	14	◑
LA	Northwestern State University of Louisiana	30	○*
LA	University of Louisiana at Monroe	18	◑
MA	Assumption College	18	◑
MA	Boston College	-1	●*
MA	Bridgewater State University ★	7	●*
MA	Emmanuel College	30	○
MA	Fitchburg State University	34	○*
MA	Framingham State University	13	●*
MA	Gordon College	13	◑
MA	Stonehill College	19	○*
MA	Worcester State University	4	●*
MD	Hood College	6	●*
MD	Mount St. Mary's University	5	●*
MD	Salisbury University	12	●*
MD	Stevenson University	25	○
MD	University of Maryland – Baltimore County	10	●*
MD	University of Maryland – College Park	-6	●
ME	Husson University	-2	●*
ME	University of Maine at Farmington	14	◑
ME	University of Maine at Presque Isle	18	◑
MI	Alma College	2	●*
MI	Central Michigan University ★	13	●*
MI	Ferris State University	17	◑
MI	Lake Superior State University	18	○*
MI	Michigan State University ★	-1	●*
MI	Saginaw Valley State University	17	◑
MI	Spring Arbor University	-11	●
MI	University of Michigan – Flint	19	○*
MI	Wayne State University ★	11	●*
MI	Western Michigan University	7	●
MN	Augsburg College	12	●*
MN	Bethel University	2	●
MN	College of Saint Benedict/Saint John's University	0	●*
MN	Concordia College at Moorhead	1	●
MN	Concordia University St. Paul	10	◑
MN	Gustavus Adolphus College	23	○
MN	Minnesota State University Moorhead	15	◑
MN	Southwest Minnesota State University	22	○
MN	University of Minnesota – Duluth	7	●
MN	University of Northwestern – St. Paul	2	●
MN	Winona State University	19	◑
MO	College of the Ozarks	7	●
MO	Evangel University	23	○
MO	Fontbonne University	-1	●*
MO	Maryville University of St. Louis	7	●*

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Scores: ● Meets standard; ◑ Partly meets standard; ○ Does not meet standard; * Imputed score derived from less precise data.

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
MO	Missouri Baptist University	12	●*
MO	Missouri Southern State University	25	○
MO	Missouri State University	11	◑
MO	Missouri Western State University	7	●*
MO	Northwest Missouri State University	16	◑
MO	Park University	24	○
MO	Southeast Missouri State University	14	●*
MO	Southwest Baptist University	0	●*
MO	St. Louis University	2	●*
MO	University of Missouri – Columbia	31	○
MO	University of Missouri – Kansas City	3	●
MO	University of Missouri – St. Louis	29	○
MS	Alcorn State University	-4	●*
MS	Blue Mountain College	20	○*
MS	Delta State University	12	◑
MS	Jackson State University	17	◑
MS	Mississippi State University	-2	●*
MS	Mississippi Valley State University	9	●
MS	University of Mississippi	5	●
MS	University of Southern Mississippi	-2	●*
MT	Montana State University	24	○
MT	Montana State University – Northern	23	○
MT	Montana State University Billings	10	●
MT	University of Great Falls	33	○
MT	University of Montana – Western	26	○
NC	Appalachian State University	24	○
NC	Catawba College	4	●
NC	East Carolina University ★	21	○*
NC	Elizabeth City State University	22	○
NC	Elon University	37	○*
NC	Greensboro College	22	○
NC	High Point University	17	○*
NC	Lees-McRae College	32	○
NC	North Carolina A&T State University	26	○
NC	North Carolina Central University	46	○
NC	North Carolina State University at Raleigh	21	○*
NC	University of North Carolina at Asheville	6	●
NC	University of North Carolina at Chapel Hill	13	●*
NC	University of North Carolina at Charlotte	26	○*
NC	University of North Carolina at Greensboro	27	○*
NC	University of North Carolina at Pembroke	39	○
NC	University of North Carolina at Wilmington	24	○*
NC	Western Carolina University	32	○
NC	Winston-Salem State University	38	○
ND	Dickinson State University	15	◑
ND	Mayville State University	26	○*
ND	Minot State University	21	○
ND	North Dakota State University	12	◑
ND	University of Mary	11	◑
ND	University of North Dakota	13	●*
ND	Valley City State University	2	●*
NE	Chadron State College	6	●*
NE	Doane College	3	●*
NE	Hastings College	5	●
NE	Midland University	9	●
NE	University of Nebraska at Kearney	18	◑
NE	University of Nebraska Omaha	10	●*
NE	Wayne State College	16	◑
NH	Rivier University	1	●
NH	Southern New Hampshire University	27	○*
NJ	Caldwell University	10	●
NJ	College of New Jersey	9	●
NJ	Kean University	26	○*
NJ	Monmouth University	18	○*
NJ	Rider University	23	○
NJ	Rowan University	9	●
NJ	Seton Hall University	27	○*
NJ	William Paterson University of New Jersey	22	○
NM	Eastern New Mexico University	-8	●*
NM	New Mexico Highlands University	11	●*
NM	New Mexico State University	5	●*
NM	University of New Mexico ★	6	●
NV	Nevada State College	14	◑
NV	University of Nevada – Las Vegas	-2	●
NY	CUNY – Brooklyn College	1	●*
NY	CUNY – City College ★	8	●*
NY	CUNY – York College	12	●*
NY	Dowling College	6	●*
NY	Hobart and William Smith Colleges	-6	●*
NY	Houghton College	15	◑
NY	Medaille College	10	●
NY	Nyack College	21	○
NY	Pace University	12	●*
NY	Roberts Wesleyan College	29	○*
NY	Siena College	13	●*
NY	St. John Fisher College	26	○
NY	St. John's University	18	○*
NY	St. Thomas Aquinas College	17	◑
NY	SUNY – College at Buffalo	38	○*
NY	SUNY – Fredonia	17	◑
NY	SUNY – New Paltz ★	19	◑
NY	SUNY – Oswego	8	●*
NY	SUNY – Potsdam	4	●
NY	SUNY College at Brockport ★	37	○
NY	SUNY College at Cortland	15	◑
NY	SUNY College at Old Westbury	7	●
NY	Utica College	16	◑
OH	Ashland University	7	●
OH	Baldwin Wallace University	11	●*
OH	Bowling Green State University ★	9	●*

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*** Scores on the Rigor Standard are based on commencement brochures from 2010 (1 percent of institutions), 2011 (7 percent), 2012 (67 percent), and 2013 (25 percent).

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
OH	Cedarville University	10	●*
OH	Central State University	21	○
OH	Cleveland State University ★	17	○*
OH	College of Mount St. Joseph	7	●*
OH	Heidelberg University	23	○*
OH	Kent State University	36	○
OH	Lake Erie College	20	○*
OH	Malone University	32	○*
OH	Miami University of Ohio	8	●*
OH	Mount Vernon Nazarene University	13	◑
OH	Muskingum University	-11	●*
OH	Ohio Northern University	14	●*
OH	Ohio University	7	●*
OH	Otterbein University	25	○*
OH	Shawnee State University	28	○*
OH	University of Akron ★	8	●*
OH	University of Cincinnati	14	◑
OH	University of Dayton	24	○
OH	University of Findlay	22	○
OH	University of Mount Union	-4	●*
OH	University of Rio Grande	28	○
OH	University of Toledo	20	◑
OH	Walsh University	12	◑
OH	Wittenberg University	10	●*
OH	Wright State University	17	◑
OH	Xavier University	-2	●*
OH	Youngstown State University	10	●*
OK	Cameron University	2	●
OK	East Central University	4	●*
OK	Northeastern State University	15	◑
OK	Northwestern Oklahoma State University	7	●
OK	Oklahoma Panhandle State University	6	●*
OK	Oklahoma State University	-1	●*
OK	Southeastern Oklahoma State University	-3	●
OK	Southwestern Oklahoma State University	4	●
OK	University of Central Oklahoma	5	●
OR	Concordia University	-8	●
OR	Corban University	23	○
OR	George Fox University	20	○
OR	Oregon State University	30	○*
OR	University of Portland	0	●
OR	Western Oregon University	29	○*
PA	Alvernia University	26	○
PA	Arcadia University	5	●*
PA	Baptist Bible College and Seminary	26	○
PA	Bloomsburg University of Pennsylvania ★	37	○
PA	Cabrini College	29	○*
PA	California University of Pennsylvania	39	○*
PA	Carlow University	12	●*
PA	Cedar Crest College	54	○
PA	Clarion University of Pennsylvania	14	◑
PA	Drexel University	1	●
PA	Duquesne University	5	●*
PA	East Stroudsburg University of Pennsylvania	38	○
PA	Eastern University	14	●*
PA	Edinboro University of Pennsylvania ★	33	○
PA	Elizabethtown College	27	○
PA	Geneva College	19	○*
PA	Juniata College	16	◑
PA	Keystone College	17	○*
PA	King's College	27	○
PA	Kutztown University of Pennsylvania ★	24	○
PA	Lincoln University of Pennsylvania	12	◑
PA	Lock Haven University of Pennsylvania	3	●*
PA	Lycoming College	16	○*
PA	Mansfield University of Pennsylvania	42	○
PA	Marywood University	5	●*
PA	Mercyhurst University	8	●
PA	Messiah College	28	○
PA	Millersville University of Pennsylvania	14	◑
PA	Muhlenberg College	15	◑
PA	Pennsylvania State University – Harrisburg	44	○*
PA	Point Park University	17	◑
PA	Saint Vincent College	6	●*
PA	Shippensburg University of Pennsylvania	45	○*
PA	Slippery Rock University of Pennsylvania	26	○*
PA	Temple University	1	●*
PA	University of Pittsburgh at Johnstown	43	○
PA	Valley Forge Christian College	1	●*
PA	West Chester University of Pennsylvania	42	○*
PA	Widener University	9	●*
PA	Wilkes University	47	○
PA	York College of Pennsylvania	30	○
RI	Roger Williams University	25	○*
RI	Salve Regina University	15	◑
RI	University of Rhode Island	4	●*
SC	Clemson University ★	21	○
SC	Coastal Carolina University	26	○*
SC	College of Charleston	2	●
SC	Converse College	-16	●*
SC	Francis Marion University	5	●*
SC	South Carolina State University	31	○*
SC	University of South Carolina – Aiken	2	●
SC	University of South Carolina – Columbia	22	○*
SC	University of South Carolina – Upstate	11	●*
SC	Winthrop University	5	●*
SD	Augustana College	3	●
SD	Black Hills State University	12	◑
SD	Dakota State University	3	●
SD	Northern State University	30	○

Legend: ★ Indicates institution is one of 33 institutions included in the analysis of coursework for the *Easy A's* report.
Scores: ● Meets standard; ◑ Partly meets standard; ○ Does not meet standard; * Imputed score derived from less precise data.

State	Institution	Differential** (percentage points)	Score on NCTQ's Rigor Standard***
SD	South Dakota State University	12	◑
SD	University of Sioux Falls	10	◑
SD	University of South Dakota	-5	●
TN	Austin Peay State University	2	●*
TN	Carson-Newman University	-2	●
TN	East Tennessee State University ★	6	●*
TN	Freed-Hardeman University	2	●
TN	Lee University	3	●
TN	Lipscomb University	15	◑
TN	Middle Tennessee State University ★	22	○*
TN	Tennessee Technological University ★	12	●*
TN	Tennessee Wesleyan College	8	●
TN	Trevecca Nazarene University	21	○
TN	University of Memphis	9	●*
TN	University of Tennessee at Chattanooga	16	◑
TX	Abilene Christian University	16	◑
TX	Angelo State University	5	●*
TX	Baylor University	13	◑
TX	Hardin-Simmons University	-1	●
TX	Howard Payne University	8	●*
TX	LeTourneau University	-4	●*
TX	Lubbock Christian University	1	●*
TX	Prairie View A&M University	4	●*
TX	Sam Houston State University	5	●*
TX	St. Edward's University	9	●*
TX	Stephen F. Austin State University ★	28	○*
TX	Sul Ross State University	-2	●*
TX	Tarleton State University	6	●*
TX	Texas A&M University ★	19	○*
TX	Texas A&M University – Commerce	5	●*
TX	Texas A&M University – Corpus Christi	12	●*
TX	Texas A&M University – Kingsville	-1	●*
TX	Texas Christian University	15	◑
TX	Texas State University - San Marcos	10	●*
TX	Texas Tech University	28	○*
TX	Texas Woman's University	5	●*
TX	University of Houston	18	○*
TX	University of Houston - Clear Lake	0	●*
TX	University of Houston - Victoria	15	○*
TX	University of North Texas	9	●*
TX	University of St. Thomas	8	●*
TX	University of Texas – Pan American ★	3	●*
TX	University of Texas at Arlington	34	○*
TX	University of Texas at Brownsville	0	●*
TX	University of Texas at El Paso	7	●*
TX	University of Texas at San Antonio	9	●*
TX	University of Texas at Tyler	19	○*
TX	West Texas A&M University	26	○*
UT	Brigham Young University	3	●
UT	Dixie State College of Utah	8	●
UT	Southern Utah University	21	○
UT	Utah State University	-3	●*
UT	Weber State University	6	●
VA	Virginia State University	25	○*
VT	Castleton State College	19	◑
VT	Johnson State College	31	○
VT	Saint Michael's College	19	◑
VT	University of Vermont	0	●
WA	Central Washington University	20	◑
WA	Eastern Washington University	18	◑
WA	Gonzaga University	4	●*
WA	Heritage University	14	◑
WA	Northwest University	7	●*
WA	Pacific Lutheran University	31	○*
WA	Seattle Pacific University	13	◑
WA	Washington State University ★	44	○*
WA	Western Washington University	9	●
WA	Whitworth University	22	○
WI	Concordia University Wisconsin	25	○
WI	Edgewood College	27	○
WI	Lakeland College	39	○
WI	Maranatha Baptist University	4	●
WI	University of Wisconsin – Eau Claire	33	○
WI	University of Wisconsin – Green Bay	24	○
WI	University of Wisconsin – Madison	4	●*
WI	University of Wisconsin – Milwaukee	6	●*
WI	University of Wisconsin – Oshkosh	37	○*
WI	University of Wisconsin – Platteville	21	○*
WI	University of Wisconsin – River Falls	16	◑
WI	University of Wisconsin – Stout	1	●*
WI	University of Wisconsin – Whitewater	19	○*
WV	Bluefield State College	25	○
WV	Concord University	14	◑
WV	Fairmont State University	28	○
WV	Glenville State College	-2	●*
WV	Marshall University	11	●*
WV	Shepherd University	10	●
WV	West Liberty University	18	○*
WV	West Virginia State University	15	●*
WV	West Virginia Wesleyan College	-7	●
WY	University of Wyoming	-4	●*

** As explained in the methodology for this standard, the GPA differential is computed as the percentage point difference between the proportion of GPA-based honors for teacher candidates and the proportion of GPA-based honors for all graduating students on the same campus, as cited in brochures for spring undergraduate graduation ceremonies. Differentials in the table have been rounded to the nearest percentage point.

*** Scores on the Rigor Standard are based on commencement brochures from 2010 (1 percent of institutions), 2011 (7 percent), 2012 (67 percent), and 2013 (25 percent).

The following institutions were analyzed in the review of coursework assignments but were not rated on the Rigor Standard.

State	Institution
NY	Hunter College – CUNY ★
NY	CUNY – Lehman College ★
NY	CUNY– Queens College ★

Legend: ★ Indicates institution is one of 33 institutions included in the analysis of coursework for the *Easy A's* report.

Differences between analyses for Rigor Standard evaluations and *Easy A's* report findings

Although both the analysis for the Rigor Standard and the analysis of grading for the report *Training Our Future Teachers: Easy A's and What's Behind Them* are similar and use the same data source, several features of their methodologies differ. These differences are explored in more detail in this standard's methodology. Due to these differences, aggregation of findings in the *Easy A's* report and ratings from the Rigor Standard are largely but not perfectly aligned.

Sample for this standard

The score applies to all of an institution's undergraduate teacher preparation programs that are included in the *Teacher Prep Review 2014*. This standard scores 509 institutions. Of these, 257 institutions (50 percent) are scored using precise data, while 252 are rated using less precise data. Institutions that are included in the *Review* but not scored on this standard are often omitted because some necessary data could not be identified in their commencement brochures or because they had fewer than 20 teacher candidates graduating in the year being analyzed.

The institutions included in this analysis represent a broad swath of colleges and universities, including public and private, small and large, and more and less selective institutions. The tables below describe the sample of the institutions evaluated based on selectivity, institution type, and size.

Table 1. Institutional selectivity[2]

Selectivity	Number of institutions
Most competitive	4
Highly competitive	22
Very Competitive	106
Competitive	258
Noncompetitive	24
Less Competitive	64
Not identified	31
TOTAL	**509**

2 Barron's. (2014). *Profiles of American Colleges 2015*. New York: Barron's Educational Series, Inc.

Table 2. Institution size[3]

Size	Number of institutions
Private (not-for-profit)	208
Public	301
TOTAL	**509**

Table 3. Institution size[4]

Size	Number of institutions
Very small	26
Small	160
Medium	191
Large	131
Special focus institution	1
TOTAL	**509**

3 Carnegie Foundation for the Advancement of Teaching. (2012) *Carnegie Classifications Data File*. Retrieved October 30, 2014 from http://classifications.carnegiefoundation.org/

4 Ibid

Appendix B:
Methodology to analyze grade differences as revealed by honors

Data used for analysis

To evaluate the undergraduate teacher preparation programs (generally including elementary, secondary, and special education programs) within an institution of higher education, we used the following sources of data:

a. To identify students' majors and honors status: commencement brochures and graduation lists from spring graduation ceremonies.

b. To distinguish between single and double majors: course catalogs and websites.

c. To gather information about the institutional home of teacher preparation programs: course catalogs and websites.

Who analyzes the data

A general analyst evaluated data for each institution using a detailed scoring protocol. For a randomly selected sample of 10 percent of institutions, a second analyst repeated the analysis. Any scoring discrepancies were resolved using NCTQ's standard protocol for scoring differences, described in the "scoring processes" section of the *Teacher Prep Review's* general methodology.

Scope of analysis

To determine the rigor of teacher preparation programs compared with all undergraduate academic disciplines on the same campus, this analysis compares the proportion of undergraduate teacher candidates earning honors (generally Latin honors such as *cum laude*, *magna cum laude* or *summa cum laude*) relative to the proportion of all undergraduates earning honors at that institution at spring graduation.[1] It does not compare the proportion of teacher candidates earning honors to any single, absolute value that is defined as acceptable or optimal. Although the data source does include information about individual students, all data were publicly available and were aggregated to the program level so that no individual's identity is revealed.

1 The comparison is between teacher candidates and *all* graduating undergraduate students, inclusive of teacher candidates.

When possible, all non-spring graduating students were removed from the analysis because their grades and levels of honors might systematically differ from students graduating in the spring in some unidentifiable way. Analysts also omitted any education majors whose certification would require post-baccalaureate coursework. Students with multiple majors were counted once per major because each major's coursework can have a significant impact on GPAs used to determine honors designations.

An institution's teacher preparation programs are identified as having disproportionately high honors if the proportion of teacher candidates earning honors is 10 or more percentage points greater than the proportion of all undergraduates earning honors. Any GPA differential greater than or equal to 10 percentage points is considered unacceptable and signals an absence of rigor in that teacher preparation program. (We note that this differential is identical to what is termed the "honors differential" in the main body of the report.)

Data Source

Our primary data source comprises spring commencement brochures or graduation lists (from 2010-2013) that meet the following criteria: 1) undergraduate students are identified as graduating from a teacher preparation program, department of education, or similar entity, and 2) honors designations based on grade point average (GPA) are identified for individual students.

If a key piece of information was missing and could not be obtained after the institution was contacted by NCTQ staff, the institution was removed from the sample.[2] Any institution with fewer than 20 graduating teacher candidates was automatically removed from the sample to ensure that its programs' performance could not be attributed to any individual candidates.[3]

We note that commencement brochures often have to be printed prior to the end of the semester so that they are ready for commencement ceremonies. They frequently contain a caveat that the information contained within their pages is not final and does not constitute proof of graduating. As a result of early printing, the indications of Latin honors are frequently based on students' GPAs prior to the final semester. We did not consider this factor to be a methodological problem because it is true for all graduating students in the analysis. Furthermore, the last semester for most teacher candidates is the student teaching experience, which is often graded as a Pass/Fail course with the Pass translated by institutions as an "A" grade. If anything, including the last semester in GPA calculations might have actually increased the GPA differential for teacher candidates.

How documents are evaluated for the analysis of honors differences

Categorization of teacher candidates and all other graduates

Teacher preparation programs can be housed in a wide range of organizational structures. For example, secondary education teacher candidates' majors may be housed within the education college or the liberal arts college. In roughly half of the institutions analyzed, commencement brochures clearly identify all teacher candidates (we refer to this as

2 We collected 316 commencement brochures that we could not evaluate due to missing information.

3 We collected 120 commencement brochures that we could not evaluate because fewer than 20 teacher candidates could be identified in each brochure.

providing "precise data"). In others, a combination of less detailed information in the commencement brochure and differing structures of the teacher preparation program result in our analysis relying on "less precise data."[4]

To accommodate these variations, NCTQ developed two approaches to evaluate institutions. When institutions' commencement brochures offered less precise data, we based the evaluation on those students graduating from the education department (or similar entity). This approach was generally necessary when the commencement brochure did not identify individual student majors or when some types of teacher candidate (most commonly secondary education candidates) were not labeled as such.

If precise data were available, teacher candidates were coded as elementary education, special education, core secondary education (e.g., English education), or non-core education (e.g., art education, physical education) and (with the exclusion of non-core teacher candidates) broadly grouped as "teacher candidates." Majors that were housed in the College of Education but were not teacher preparation majors were coded as "education college non-teacher candidates" and were not included in the "teacher candidates" category. All students with majors unrelated to teacher preparation or the education school in general were coded as "other students."

When commencement brochures offered less precise data, candidates were coded according to more general categories. These categories were based on the most specific available "unit of analysis" in which candidates can be grouped, such as an education department, education college, or education-specific degree.

The seven scenarios appearing later in this appendix depict representative institutional types and the approach to analysis used for each.

Comparison of effects of two different analysis approaches

To compare the effects on analysis of these two different approaches, we looked at a subsample of 50 institutions for which precise data were available to determine how much their GPA differential would vary if we proceeded as if the data were not available. Thus, we recoded the data for each institution as if we could not identify individual teacher candidates, and instead categorized them based on their department or other available data. Using a chi-square test, we found the similarity in our final results was highly statistically significant ($p<0.001$): Institutions that had an unacceptable GPA differential when teacher candidates were identifiable almost all had an unacceptable GPA differential when analyzed using less precise data, and all institutions that had acceptable GPA differentials when coded based on precise data also had acceptable GPA differentials when categorized based on less precise data.

In summary, compared to their ratings with precise data, when rated with less precise data institutions only performed better, not worse. Based on these results, we conclude that the findings based on less precise data are actually quite conservative in their measure of GPA differentials.

Coding of graduating students receiving honors

Graduating students were coded as having received honors at graduation based primarily on Latin honors, but any honors designations based on cumulative GPA or being within the top specified percent of the graduating class was accepted. Honors designations based on criteria other than GPA or derivatives of GPA (e.g., honors for taking honors courses, writing a thesis, or entering into an honors society) were not considered. No distinctions were made among different levels of honors.

4 This distinction does not mean that any of the data are *inaccurate*, just that the institutions with "less precise data" offer information at a broader level, and lack some of the distinctions about students' majors and certifications that the commencement brochures for institutions with "precise data" offer.

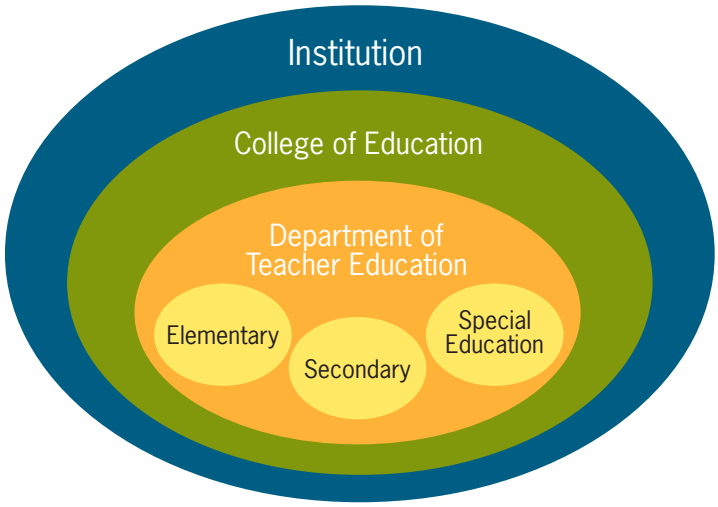
Representative institutional types and approach to analysis used for each

Scenarios 1-7 depict how we identify all candidates with elementary, secondary, or special education majors or certifications. The units of analysis in each figure one shown in yellow.

Scenario 1: Precise data, all teaching majors are within the Department of Education

All teaching majors are identified as such in the commencement brochure and are housed within a Department of Teacher Education in the College of Education.

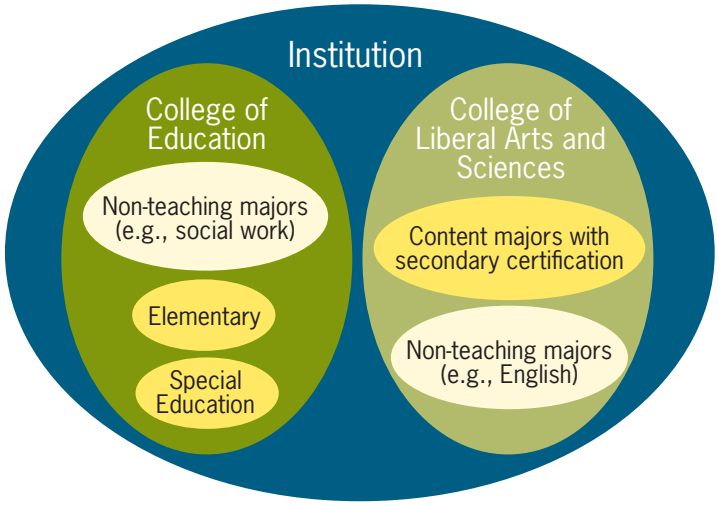
Explanation: The unit of analysis for calculating the GPA differential is based on all candidates (and only those candidates) who major in elementary, secondary, or special education.



Scenario 2: Precise data, teaching majors are in multiple colleges within the institution

Some core teaching majors are housed in the College of Education and other candidates are housed in the college that contains their content major. All teaching candidates are identified as such in the commencement brochure.

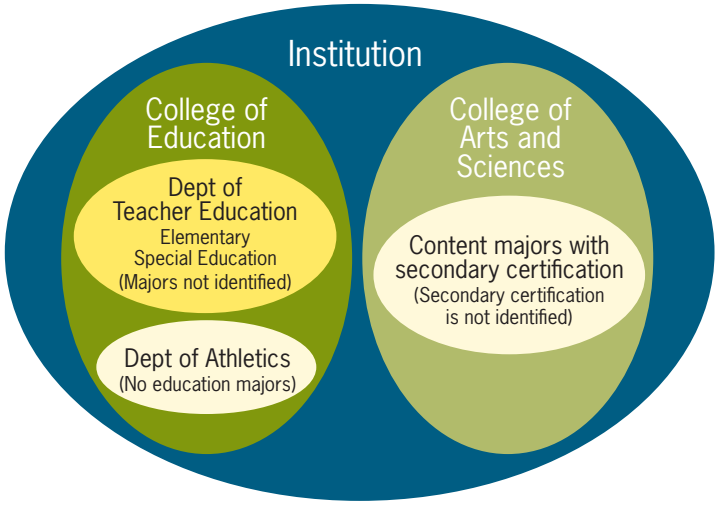
Explanation: The GPA differential calculation is based on all candidates with elementary and special education majors and candidates obtaining secondary certification.



Scenario 3: Less precise data, Department of Teacher Education within College of Education

Some teacher candidates are housed in a department within the College of Education and others are housed in the College of Arts and Sciences. Students are grouped by department in the commencement brochure but majors are not identified.

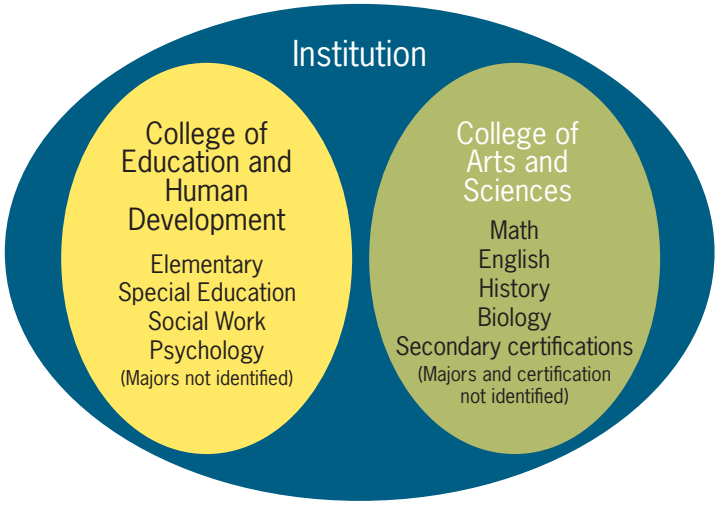
Explanation: Because the institution houses education majors within the Department of Teacher Education and because we can be reasonably confident that the students in that department are teacher candidates, we use the Department of Teacher Education as the unit of analysis for the GPA differential calculation. Consequently, the calculation of the GPA differential does not include consideration of any graduating candidates with secondary education certification. If any non-teacher preparation majors (e.g., education policy) are also housed within the Department of Teacher Education, the students with those majors are included in the calculation of the GPA differential.



Scenario 4: Less precise data, College of Education

Teacher preparation majors are housed in the College of Education. The commencement brochure groups students according to college and does not label majors.

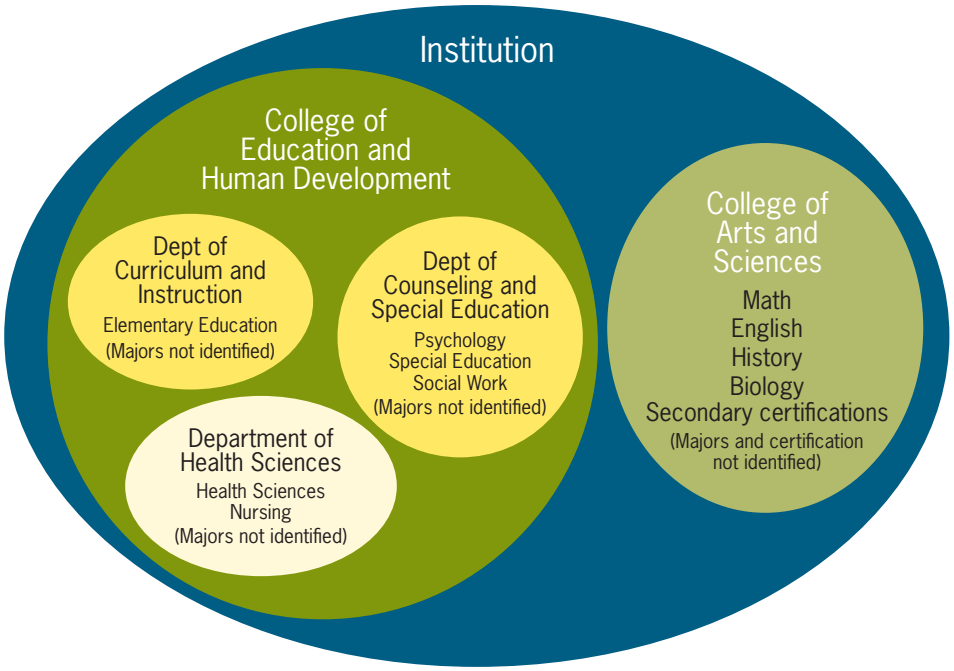
Explanation: The clearest grouping of teacher candidates is in the College of Education and Human Development, and so this becomes the unit of analysis for the GPA differential. The calculation includes both teaching and non-teaching majors housed in that college, and excludes candidates obtaining teaching certifications whose majors are housed in other departments.



Scenario 5: Less precise data, multiple departments within the College of Education

Teacher preparation majors are housed both within multiple departments in the College of Education and outside of the College of Education. Although students' departments are labeled in the commencement brochure, students' majors are not.

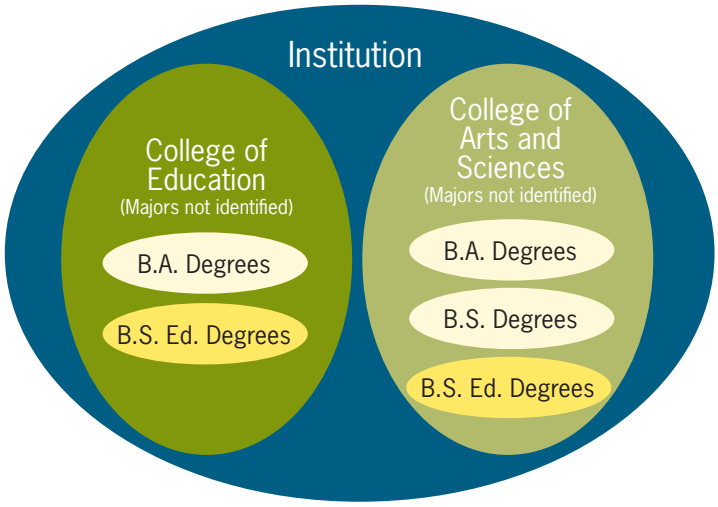
Explanation: The unit of analysis for the GPA differential includes students in those departments within the College of Education that house teacher preparation programs (the Department of Curriculum and Instruction and the Department of Counseling and Special Education), but excludes students graduating from departments that do not house any core teacher preparation programs (the Department of Health Sciences).



Scenario 6: Less precise data, B.S. in Education

Students are grouped by degree type in the commencement brochure. Teacher candidates have earned a Bachelor of Science in Education (B.S.Ed.) leading to certification in elementary education, middle grades education, and special education, and may be housed in several different departments. In this figure, teacher candidates earning a B.S.Ed. degree for elementary and special education are housed in the College of Education, while teacher candidates earning a B.S. Ed. for middle grades education are housed with their respective content departments in the College of Arts and Sciences. Teacher candidates seeking secondary certification earn a content area major with a Bachelor of Arts or Bachelor of Science degree and are not identified as education graduates in the commencement brochure.

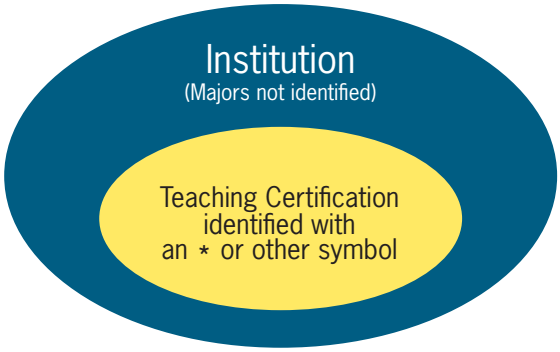
Explanation: The unit of analysis for the GPA differential is the teacher candidates receiving a Bachelor of Science in Education degree, which is the most common degree granted to students earning teaching certifications.



Scenario 7: Less precise data, Teacher Certification

Students' names are displayed in one list in the commencement brochure. Students who have earned a teaching certification are identified in the commencement brochure with a symbol or in a separate list. Teacher candidates major in any number of subject areas which are not identified in the commencement brochure, and earn teaching certifications in elementary, secondary, or special education, but the type is not specified.

Explanation: The unit of analysis for the GPA differential includes all candidates who have earned a teaching certification. Since majors are not identified, this includes both core (elementary, secondary and special education) and non-core teaching candidates (e.g., art education and physical education majors).



Appendix C:
Methodology to analyze coursework

For this report, we analyzed coursework for teacher preparation courses in a sample of 33 institutions. In a subset of seven institutions, the analysis includes average course grades for all courses analyzed. In a subset of five of those institutions, the analysis includes average course grades, teacher preparation coursework and coursework from other academic disciplines.

To evaluate the potential connection between the characteristics of course assignments and average course grades, we used the following sources of data:

- To analyze assignments: course syllabi dated between 2009 and 2014.
- To study the relationship between course assignments and grades: average course grades specific to a course section gathered either from data posted on institutions' websites or through open records requests.
- To identify all required and elected courses that a student with a given major would be required to take: degree plans.

Scope of analysis for course syllabi and course grade analysis for teacher preparation and other academic disciplines

We conducted an in-depth examination of nearly all the coursework required to complete selected majors at a subset of seven institutions using course syllabi along with each course's average grade. The purpose was to investigate any correlation between assignment characteristics and average grades earned in the course. This investigation involved both teacher preparation coursework and coursework from other academic departments.

To the extent possible, we examined all courses required by a degree plan, as well as a random sample of electives based on the number required. Student teaching courses and other purely field-based courses taken in the student's final semester were omitted from analysis because all assignments completed in those courses are assumed to be criterion-deficient (with good reason, given that they are meant to be completed in individual student teaching placements and are unique to the circumstances of those placements). In a few cases, we could not obtain some of the syllabi for courses required for a major; we note the number of missing syllabi in Appendix F.

Majors outside of teacher preparation included in this investigation were selected for a variety of reasons.[1] Nursing programs were included based on the theory that nursing assignments might share assignment features with teacher preparation due to the prevalence of clinical practice and the possibility of teaching to mastery in both. Similarly, if a business program was offered, it was chosen because of the possibility that, being a professional program, business school coursework might have features analogous to teacher preparation. In contrast, several majors in the liberal arts and hard sciences (biology, economics, history and psychology) were chosen precisely because they were presumed not to share features such as clinical practice or identify-formation assignments with teacher preparation. Table 1 illustrates the academic disciplines for which we evaluated course syllabi and GPA data at seven institutions.

Table 1. Academic disciplines included in each institution's analysis

	Teacher preparation	Nursing	Business/ Management	Biology	Economics	History	Psychology
Institution A	X	X		X	X	X	X
Institution B	X	X	X			X	X
Institution C	X	X	X	X	X	X	X
Institution D	X	X		X	X	X	X
Institution E	X		X				X
Institution F	X						
Institution G	X						

Scope of course syllabi analysis for teacher preparation

For a larger sample of 33 institutions, we examined teacher preparation syllabi without accompanying grade information. We examined the assignments given in all of the coursework required to complete a degree plan in elementary, secondary, and special education to assess the prevalence of assignments found to correlate with higher grades in the first investigation.[2] The institutions selected for this sample, listed below and identified by number, are among the top 200 most prolific producers of teachers. Information on average course grades was not available for courses for these institutions (with the exception of the seven institutions in the subset discussed above).

1 If multiple paths for a major existed, one pathway was randomly selected. If the major contained elective courses, we randomly selected from the elective options the number of courses a student would have to take to fulfill credit requirements for the major. If multiple sections for a course existed, one section was randomly selected.

2 Secondary coursework was selected based on the content pathway NCTQ evaluated in the *Teacher Prep Review*. Programs often offer a number of content areas for secondary teachers (e.g., one can become a math teacher, or an English teacher, and so on). Our *Teacher Prep Review* has traditionally randomly selected one of those pathways and collected a degree plan and coursework based on that pathway. For this analysis, we use the same content pathway that we used in the *Review*. We did not review special education programs for all institutions in the sample because we have fewer full sets of syllabi on file for these programs. We did not look at any assignments made in student teaching courses and other purely field-based courses. If multiple sections for a course existed, one section was randomly selected for evaluation.

Table 2. Teacher preparation programs for institutions included in coursework analysis

Institution	Elementary	Secondary	Special Education
1	X	X	X
2	X	X	X
3	X	X	
4	X	X	
5 (A)**	X	X	
6	X	X	
7	X	X	
8	X	X	
9	X	X	
10	X	X	
11	X	X	X
12	X	X	
13	X	X	
14	X	X	
15	X	X	
16 (F)*	X		
17	X	X	
18	X	X	
19	X	X	X
20 (B)**	X		X
21	X	X	
22	X	X	
23	X	X	
24	X	X	
25 (C)**	X	X	X
26	X	X	
27	X	X	
28 (D)**	X	X	X
29	X	X	
30	X	X	
31 (E)**	X	X	
32 (G)*	X	X	
33		X	

* Institutions with average course grades included in Section 3.

** Institutions with average course grades and syllabi for both teacher preparation programs and other academic disciplines included in Section 3 (letter indicated in parentheses).

Analysis of syllabi

In the subset of seven programs with average course grade data, course syllabi and corresponding grades were paired by semester and course section. For example, a syllabus from the course EDUC 101, section 501, taught in the fall of 2012, was matched to the average course-level GPA information of that same course and section taught in the fall of 2012. GPA information was obtained in one of two ways: 1) from public postings by the institution's registrar, or 2) via open records requests. NCTQ applauds the commitment to transparency demonstrated by institutions that publicly post grade information.

Coding whether an assignment is criterion-referenced or criterion-deficient

For the entire sample of institutions, analysts coded assignments along a number of domains. Initially, two analysts coded each syllabus. Discrepancies between the two analyses were reconciled by a third party. After the analysts had reached a high overall level of inter-rater reliability, individual analysts coded syllabi for additional institutions.

In both investigations, data on course assignments were gathered from course syllabi. Codes, listed in Table 3, were established for analyzing each type of assignment. The code that plays the largest role in this analysis is whether an assignment is criterion-referenced or criterion-deficient. This code is explained briefly below and in much more detail in Section 2 of the report.

Table 3. Codes for assignment types

Assignment code description	Code options
Criterion *An assignment is considered criterion-referenced when it is focused on a clearly circumscribed body of knowledge and the assignment is limited so that the instructor can compare students' work on the same assignment.* *Qualities that indicate an assignment is criterion-referenced include* ■ *a limited scope;* ■ *evaluation based on objective criteria;* ■ *students' work products similar enough to allow comparison.* *Qualities that indicate an assignment is criterion-deficient include* ■ *an unlimited or very broad scope;* ■ *evaluation based on subjective criteria;* ■ *students' work products that differ too much to be compared.* *When syllabi were vague or unclear about the assignments, it was assumed that assignments are not criterion-referenced.*	■ Criterion-referenced ■ Criterion-deficient

Examples of assignments

CRITERION REFERENCED:
You will learn how to critique science lessons utilizing a given tool. You will use this instrument to critique 5 different videotaped lessons.

- Everyone uses the **same instrument** to critique lessons.
- The critiqued lessons are videotaped so that the **instructor knows the content of the lessons**.
- Because everyone responds to the **same lesson**, the professor can tell **who is correctly applying the tool and who is not**.

CRITERION DEFICIENT:
Your group must teach something – anything to the class. When you teach this topic to the class, you must do so utilizing the information in your section of *Educational Psychology*. In this way, you demonstrate the teaching strategies or content in your methods of instruction.

- Every group **teaches something different**.
- **Even though there is one reference text**, each group will apply different education psychology skills and information since they have each been assigned a different section of the textbook.
- **Due to the range of topics that can be taught**, it is unlikely that either the instructor or the other teacher candidates will be able to discern **who is applying the best techniques to convey the content**.

Proportions of course grades

Syllabi generally describe how much an assignment counts toward a student's grade. Some syllabi use percentages and others assign raw point values. We based our analysis on the percent of course grades attributed to assignments, rather than on the number of assignments.

In the following example, all but one assignment is criterion-deficient. The weight of all criterion-deficient assignments in the course equals 96.67 percent of the total course grade.[3]

Table 4. Example of assignment weights

Assignment	Percent of Final Grade	Criterion-Deficient?	Percent of Grade based on Criterion-Deficient Assignments
Class Postings	**20%**	**Yes**	**96.67%**
Class Discussions	**25%**	**Yes**	
Quizzes	**3.33%**	**No**	
Surveys and Polls in each Module	**6.67%**	**Yes**	
Book Review Assignment	**25%**	**Yes**	
Interview Assignment	**20%**	**Yes**	

3 In courses where the percents of assignments are not given, we divide the course grades evenly among all assignments. In courses where the percents for course grades do not total 100 percent, we add all percents and divide by that new total to recalculate percents.

Coding additional information

Several alternative hypotheses that have been advanced to explain the higher grades in teacher preparation focus on opportunities to revise one's work or to work in groups. To test these alternative hypotheses, we coded whether assignments could be revised and whether assignments could be completed in groups.

Table 5. Codes for revisions and individual work

Assignment code description	Code options
Opportunities for revisions *(assignment)* *An assignment is considered to have opportunities for revision if teacher candidates are able to revise an assignment for a higher grade after it has already been graded, or if the teacher candidate is able to complete the required work and receive substantial feedback from a course authority figure (e.g., instructor, teaching assistant, course-assigned tutor) before handing in the assignment for a final grade.* *An assignment is not considered to have opportunities for revisions if the course designates separate grades for an initial and final draft. Optional or required opportunities for peer revisions also do not qualify an assignment as having opportunities for revisions.* *In the absence of any clear indication that an assignment could be revised after initial grading, it is assumed that revisions are not permitted.*	■ Yes ■ No
Opportunities for revisions *(course)* *A course is considered to offer opportunities for revisions if the syllabus states that all assignments may be revised for an improved grade. A course syllabus that contains language suggesting that all assignments are completed to mastery is also considered to provide opportunities for revisions.* *In the absence of such language, it is assumed that revisions are not permitted.*	■ Yes ■ No

Assignment code description	Code options
Individual/Group work *Assignments are assumed to be completed individually unless there is explicit evidence from the syllabus that the work may be completed in a group.* *When an assignment requires that most of the work be completed collaboratively, but grades are assigned individually, the assignment is still considered to be "group work." If work is completed in a group, but individuals each produce their own distinct products, the assignment was coded as "individual work." Assignments that include the option for group work, but do not require it, are considered to be "group work."*	■ Individual ■ Group

Additionally, we coded each assignment by category based on the type of work product the assignment required. This analysis also helped identify whether criterion-referenced assignments were more prevalent in some categories of work than in others. While the examples given come from teacher preparation coursework, the assignment categories are also applicable to assignments in other academic disciplines.

Table 6. Codes and examples of assignment categories

Assignment category codes and description	Example
Participation/in-class assignments *Includes attendance, participating in class or online discussions, reading assigned texts, and other administrative and in-class activities.*	**Attendance** Attendance is expected and encouraged for this class. To help ensure that this is the case, there will be 5 in-class assignments given at random during the semester. These will be short exercises involving some form of participation on your part & will be used to determine your class attendance, preparedness, and participation. Each will be worth 6 points apiece and cannot be made up, unless you have an approved university excuse for your absence.
Exam *Includes in-class, take-home, online, open and closed note exams and quizzes.*	**Midterm and final examinations** Most of the items will call for application of class content, not just memorization.

Assignment category codes and description	Example
Reflection *Includes writing about personal opinions, perception, or experiences, such as blog/ journal entries, personal philosophies, and autobiographical essays.*	**Schooling/Cultural Autobiography** Understanding how your personal and schooling experiences have shaped your own assumptions about teaching and learning is essential to the aims of the course. To help you examine these experiences analytically, you will compose an autobiography in two parts in which you reflect on your own identity and the ways in which identity markers (such as social class, race, ethnicity, language, ability, gender, sexual orientation, etc.) informed your schooling experiences. Consider in your essay what your schooling experiences might have taught you about your own identity.
Portfolio *Often a culminating assignment in a course or preparation program, referring to the completed body of work that would make up a portfolio, not the individual components. Often includes an array of work products such as lesson plans and unit plans, samples of student work, and personal reflections.*	**Portfolio** Review your semester's work; choose the best evidence of your growth and development. Make your portfolio unique and powerful by carefully selecting and creatively sharing your best work in a ½ inch binder with a creative cover, a content page, and labeled dividers: (1) Final Reflection, (2) Reflections: weekly learning logs, fieldwork journal, self and peer assessments, (3) Articles and essay for your inquiry project, (4) LS-Lesson Plan, (5) MI-Choice Chart
Field experience *Real-world activities that are relevant to a "field" or career path that the class is addressing. Includes such activities as classroom observations, student case studies, teacher interviews, observation of school activities, and teaching a lesson in a K-12 class.*	**Interactive Read Aloud Plan and Reflection** Together with your clinical teacher, select a book to read aloud that is appropriate for creating a conversation with your students. Plan and carry out an interactive read-aloud lesson within your clinical setting.
Academic writing/research assignment *Assignments that are more in-depth than a homework assignment and that have some basis in fact, research, etc. Includes gathering research on a specified topic, writing a research paper, writing a literature review, and conducting or reporting on a statistical analysis.*	**Literacy Assessment Research Assignment** Students will collaborative select one of the 5 components of reading instruction and assessment to research from the choices below: ▪ Phonological Awareness/Phonemic Awareness ▪ Phonics/Word Recognition/Alphabetic Principle ▪ Fluency ▪ Vocabulary ▪ Comprehension Students will collaboratively write a 15-20 page paper with not less than 15 peer reviewed references in groups of not more than 5. Students will summarize 15-20 articles and share what they learned from each article on the topic.

Assignment category codes and description	Example
Class presentation *Presenting to the college class. Includes presenting on topics such as an instructional strategy or content area, or leading discussion on course readings.*	**Presentation** Teacher candidates will be assigned to research and present an intervention strategy/activity. Teacher candidates may work alone or with a partner. Teacher candidates will design a Prezi-tation to present the activity and provide a handout (using template provided) for classmates.
Other written assignments *Written assignments that are neither strictly reflections nor academic writing. Includes cultural analysis papers, applying course content to non-academic materials such as an analysis of a movie or book using course concepts, or other written assignments that do not fit into another category.*	**Letters to the Editor** Keeping abreast of current issues in education contributes to being an informed professional. Read *The New York Times* daily to keep up to date with developments in the schools. Select and read articles related to issues in education. Prepare and submit two Letters to the Editor based on two articles from *The New York Times*. Submit the article with the letter to the editor.
Planning and teaching/ developing resources *Assignments that mirror the work of teaching. Includes writing a lesson plan or unit plan, developing an IEP, developing an assessment, designing the layout of a classroom, or creating a resource file of books or websites.*	**Lesson Plan** You are required to write a standards-based lesson plan that includes both state math standards and Common Core math standards. A lesson plan template will be provided to you and explained in class.
Action research *Designing and conducting a study to test a particular hypothesis, often in one's own classroom or field placement.*	**Action Research Project** You will conduct an action research project examining your own attitudes and actions concerning racial consciousness. You will collect data on the role of diversity in your instructional and non-instructional practices and the impact of such practices on student attitudes toward learning using guiding questions. Participant observations and reflections will be the primary source of data collection used to deconstruct teacher identity and its role in educational equity.
Assignment for students *Assignments that would typically be given to students in a K-12 class setting. Includes creating artwork, presenting a puppet show, bringing in a snack related to a storybook.*	**Vocabulary Parade** Students will participate in a class vocabulary parade based on the book Miss Alaineus: A Vocabulary Disaster. Students will choose a vocabulary word from a class brainstormed list and create a "costume" to represent their selected word. Vocabulary words will be presented during class.

Assignment category codes and description	Example
Other activities *Activities that are not directly related to teaching but may help teacher candidates understand their students' life experiences, such as to experience having a disability, to conduct a service learning project, or to attend a workshop or professional development event.*	**Disability Simulation** Choose one of the following disabilities and simulate it for a two hour block of time: blindness, hearing impairment, or physical disability that would require you to use a wheelchair. Your summary of this situation should 1) provide a description of activities in which you engaged while you participated in the simulation, 2) describe what you learned about the specific disability you simulated, 3) describe how you will apply the knowledge you gained in your classroom.
Produce media *Includes producing a video and creating a virtual site to teach media.*	**Digital Video** Produce a digital video/podcast presenting a topic of your choice. Each group will also design and create a "movie" poster using Word to advertise your upcoming production.
Homework assignments *Includes most brief (e.g. would only take 1 night to complete) assignments completed outside of class. Includes administrative tasks, responding to reading, problem sets.*	**Focus Questions** You are required to complete focus questions from many chapters, which will be the basis for your group discussions. Bring them to class; they will be collected and graded.
Career search activities *Includes any career search activities such as writing a resume or practicing interviewing.*	**Employment Strategies Notebook** The student will develop a notebook of helpful topics, tips, and strategies in gaining employment as a professional educator/ classroom teacher. Materials will be obtained from assigned class activities, online research, and handouts given by course instructor.
Other *Includes assignments that do not fit in above categories. Typically used with lack of a detailed description prevents placement in another category.*	■ "Independent assignments" ■ "Projects" ■ "Application assignment"

Pass/Fail Assignments

A number of assignments in both nursing and teacher preparation programs are graded on a pass/fail basis and are not designated in the syllabus with a percent of course grade. These assignments were not factored into the GPA or grade breakdown of a course.

Appendix D:
Converting criterion-deficient assignments to criterion-referenced assignments

The first table below contains real examples of criterion-deficient assignments (modified only for clarity and conciseness). We suggest steps that can easily improve the assignments and make them more effective for training. The second table contains real examples of criterion-referenced assignments.

Table 1. Examples of criterion-deficient assignments and how they can be improved

Criterion-deficient assignment	Steps to improve	Why is the criterion-referenced assignment more effective for training?
Online Activity #11D *Classroom Organization:* *Design a diagram of your "ideal" K – 3 classroom.* *Do not create this assignment on the computer. Instead, create the assignment by hand and submit the assignment as a "scanned copy" in the assignment in Blackboard Vista. The assignment will be graded for neatness as well as completeness.*	Few teachers ever get to teach in their ideal classroom, so asking them to design one in an open-ended way is simply unrealistic. A more realistic approach that allows for more productive feedback is to establish parameters: ■ the number of students, ■ their age, ■ their behavioral needs, ■ the layout and resources available in the classroom. Require that teacher candidates explain why they made the design decisions they did, and how they would modify the classroom design for different specified classroom activities (e.g., storytime, group work stations).	With common parameters and specified classroom activities, the instructor can determine whether teacher candidates are proposing realistic designs and effective strategies for the different classroom activities, avoiding pitfalls such as blocked sightlines, poorly placed storage space and so on.

Criterion-deficient assignment	Steps to improve	Why is the criterion-referenced assignment more effective for training?
Online Activity #2D *Oral Language Development: Submit two-page paper describing how you learned to read.*	Beyond the fact that a teacher candidate may not recall how she learned to read, the recollection could be of no relevance to how she should teach others. Any one of a variety of other assignments could be viable substitutes to motivate candidates as they begin to learn about reading instruction: ■ Present a case study that describes a young student struggling to read and ask what the candidate hopes to learn about to help resolve the student's problems ■ Write a report on the ways in which family actions and activities can support reading	Even these relatively non-technical assignments will provide knowledge useful to the teacher candidate and set the stage for instruction on the more technical aspects of reading instruction.
Child assessment/Running records *Assessment is an integral part of teaching and learning that is used to inform and direct instruction. Students will select and complete at least one running record (depends on reading level) and/or other early literacy assessments for a child. (Student must be able to read at least Level A books). Administer and score the assessment(s) using forms provided in class.*	Because this assignment is based on students that teacher candidates select from their field placement, the instructor has no way to verify that their assessment results are correct. Instead, the assignment should: ■ Provide a video or recording of a student reading for use in the candidate's assessment ■ Ask teacher candidates to base recommendations on their results from the assessment.	The new assignment lets the instructor quickly evaluate both the teacher candidates' ability to diagnose reading challenges and to make appropriate recommendations. Having all teacher candidates respond to the same student lets the instructor discern how well each teacher candidate understands and applies the assessment and interprets its results.
Lesson plans *Develop a lesson plan. (1) a history lesson plan (2) an economics lesson plan or (3) a government lesson plan. Include modifications for one of the special student groups; English language learners, dyslexia, gifted or attention deficit.*	Rather than allowing the teacher candidate to choose any subject area and the type of modification, the instructor should: ■ Specify the standards and content area that the lesson plan should address. ■ Specify the type of special student groups for which modifications should be made. ■ Provide videos, sample work, and/or written descriptions of the students in the special student group to narrow down the students' specific needs.	Limiting the scope of the content lets the professor efficiently compare the work across teacher candidates to determine who has a strong grasp of the material and who may need additional training in teaching the standards and making appropriate accommodations.

Criterion-deficient assignment	Steps to improve	Why is the criterion-referenced assignment more effective for training?
Teaching reading paper *Participants will complete and submit a 5-to-10 page paper which discusses the topic "How to teach reading" paper. We will discuss this paper in class and you will be provided with opportunities to discuss this piece with others. A rubric is available in your coursepack.*	This open-ended assignment may cause some teacher candidates to propose and reinforce incorrect approaches to teach reading. Instead, ask teacher candidates to: ■ Summarize the "big five" components of effective reading instruction from the National Reading Panel. ■ Offer examples of how they might implement a strategy related to each of the "big five" in a first-grade classroom using a specified book.	Asking teacher candidates to summarize research-backed techniques can help them internalize what they've learned. Asking that they apply these techniques in a specific context ensures that the candidates are capable of using their knowledge in practice. Limiting the scope of the content by specifying the reading components and the book lets the professor efficiently compare the work across teacher candidates to determine who has a strong grasp of the material and who may need additional training in teaching reading.

Table 2. Examples of criterion-referenced assignments

Final Project *To complete this assignment, you will watch a teaching video clip and complete a lesson plan form and reflection paper based on the teaching video clip observed. First, you will write a six-step lesson plan using the Lesson Plan Form provided by the instructor in the "Assignments" section on Blackboard. The lesson content should be based on the video clip. Secondly, you will reflect on what you view and provide your own thoughts/ideas for better teaching, according to the reflection questions listed on the assignment sheet in the "Assignments" section.*
Signature Assignment #1: Lesson Evaluation *This assignment will be conducted in class and is designed to assess the intern's knowledge and understanding of three indicators of the TAP rubric. Interns will be given a sample lesson plan and watch a video of lesson execution. Interns will independently evaluate the lesson plan and video using the following TAP rubrics: Instructional Plans, Presenting Instructional Content, and Managing Student Behavior. Interns will provide a rubric score and evidence to support their score. Clinical Experience Instructors will use the rubric below to evaluate the intern's scores and evidence. Interns must earn a score of "proficient" (3) or higher on all the sections of the signature assignment in order to pass the clinical experience course.*
In Class Focus Group Activity *Discuss 5 accommodations in administering classroom tests to your case study student, either Bryce or Angela: On page 415 in your text is a grid of accommodations for administering classroom tests. Using this grid, apply 5 accommodations that you will use with your case study student. Discuss briefly why you chose each accommodation.*
Modify a chapter test *In groups you will modify, rewrite and submit the actual test for your case student, either Bryce or Angela, using information from the text to complete this assignment. Choose the test from the science chapter Discovery Works in the Course Documents tab if Bryce if your student. The test includes pages 41-44. Choose the test from 6th Grade Science Test and Worksheets in Course Documents if your case study student is Angela. Pages 24-26 are test pages. If you choose the 6th grade test, also print a copy of the actual text that the test covers. It is the 6th grade science chapter in Course Documents.*

Case Study Project (Case Study Intervention Plan)

Students will be given one or more case studies of students experiencing difficulty learning to read at each stage of reading. Upon reading the case study, students will submit a written intervention plan following guidelines provided by the instructor and includes the following:

1. *The use of explicit instruction to teach a new skill and a description of an interactive material to practice the same skill. Explicit instruction procedures must be described in the teaching procedures and the interactive material will be described in the repeated practice section of the guidelines.*
2. *The progress monitoring procedures and a sample data collection sheet must be provided for each essential skill taught.*

The case study project must be written in the narrative, not an outline, following the guidelines provided by the instructor. A rubric is provided on D2L for completing this assignment. Although various interventions/strategies/activities are discussed and practiced during this course, students are required to use this assignment as an opportunity to apply these interventions/strategies/activities to meeting the specific educational needs of each case study student. Therefore, students may use interventions/strategies/activities discussed during the course, however the descriptions of all material ideas must be enhanced and directly relevant to the case study, not exactly copied from a resource or any other students' material descriptions. Students may also use outside resources for interactive material ideas, however remember that each case study is a struggling reader and needs specific instruction; general education interventions and strategies alone have not been effective for this student.

Activity #4

Lesson Plan: Your pair will modify a given lesson plan, adding to it specific classroom management details to support the specific content/activities the class will engage in while the assigned lesson is taught.

Appendix E:
Validating the findings on teacher candidates' grades

The protocol to evaluate teacher preparation programs' rigor based on student grades is novel and was created by NCTQ from scratch. Therefore, we tested this new analysis in several ways to identify any possible sources of bias. Features of the institution or the commencement brochure that are unrelated to the teacher preparation program itself should not affect whether an institution has a large GPA differential (the difference between the proportion of teacher candidates earning honors and the proportion of all undergraduate students earning honors at the institution). (We note that this differential is identical to what is termed the "honors differential" in the main body of the report.) This analysis finds that only the minimum GPA required for honors appears to have any bearing on an institution's differential (in that a higher minimum GPA is associated with a smaller differential in honors), and that appears to be limited.

Possible implications of using less precise data

The first issue is whether analyzing institutions with less precise data in their commencement brochures (such as brochures that do not identify students' majors) is sufficiently accurate for evaluating the proportion of teacher candidates earning honors. We evaluated this issue with a random sample of 50 institutions. These institutions produced commencement brochures containing precise data, allowing two calculations: one using precise data on student majors and one excluding information about student majors, that is, using less precise data. The results are shown below. Using a chi-square test, we found that the relationship between scores with precise data and less precise data are statistically significant ($p<0.001$). No institution that had less than a 10 percentage point differential when rated with more precise data had disparity differential at or above 10 percentage points when rated with less precise data. Four institutions that have a 10 percentage point or greater differential when rated with precise data have a differential of less than 10 percentage points when rated with less precise data. In summary, compared to their ratings with precise data, when rated with less precise data, institutions only performed better, not worse.

Table 1. Comparison of commencement brochures analyzed using precise data and less-precise data

		Precise data	
		< 10 percentage point differential	≥ 10 percentage point differential
Less precise data	< 10 percentage point differential	**21**	**4**
	≥ 10 percentage point differential	**0**	**25**

These results suggest that institutions for which we have less precise data available are not likely to be evaluated more critically than they would have been had we used precise data for calculations.

Possible implications of the size of the preparation program and institution

Another possible source of bias is the size of the preparation program. For example, a program that produces fewer teacher candidates might give each teacher candidate more individual attention, leading to higher grades. To test this, we used a chi-square test to compare differentials for institutions producing different numbers of teacher candidates. We found no relationship between the size of a preparation program and the size of the GPA differential (p=0.411).[1]

Table 2. GPA differentials and teacher candidate production

	< 10 percentage point differential	≥ 10 percentage point differential
0-200	**147**	**204**
201-400	**41**	**65**
401-600	**20**	**20**
601-800	**5**	**4**
801-1000	**1**	**0**
1001 or more	**0**	**2**

1 We recognize that given the small size of some cells a chi-square test is not entirely appropriate. However, consolidating the cells for the larger ranges of production yields the same finding: no statistically significant relationship between GPA differentials and teacher candidate production.

We used Integrated Postsecondary Education Data System (IPEDS) data to determine whether the total enrollment of the institution (including both undergraduate and graduate students) was related to the institution's differential. We again found no statistically significant relationship (p=0.236).

Table 3. Differentials and total institutional enrollment

	< 10 percentage point differential	≥ 10 percentage point differential
0-5,000	**83**	**117**
5,001-10,000	**38**	**65**
10,001-15,000	**24**	**36**
15,001-20,000	**17**	**31**
20,001-25,000	**15**	**11**
25,001-30,000	**10**	**7**
30,001 or more	**26**	**26**

Possible implications of the GPA cutoff to earn honors

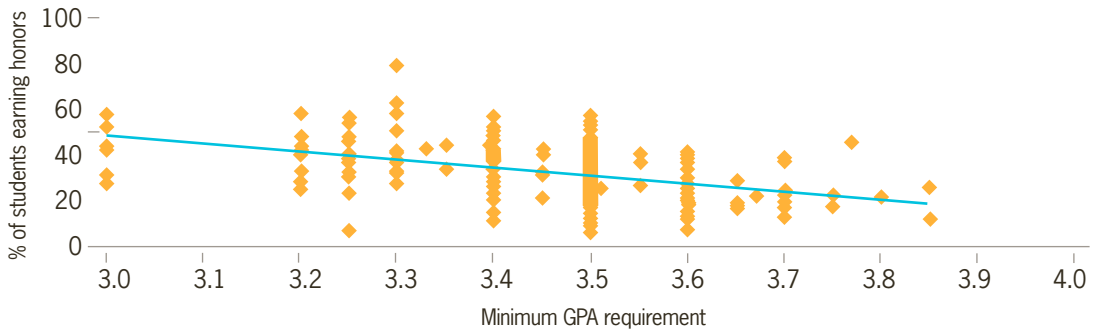
The majority of institutions in this analysis (89 percent) award Latin honors based on GPA. The remainder of institutions (11 percent) award honors using a different label (such as graduating "with distinction" or "with high distinction") or a different standard (such as a measure based on class rank). The GPA cutoffs are fairly consistent across schools awarding Latin honors, regardless of whether the institution is evaluated using precise or less precise data. The most frequently occurring requirement for *summa cum laude* is a GPA from 3.9 to 4.0; for *magna cum laude*, a GPA from 3.7 to 3.89; and for *cum laude*, a GPA of 3.5 to 3.69. For the honors analysis, we do not make any distinction between the levels of honors; we place all levels of honors into one group.

Table 4. Distribution of GPA cutoffs for Latin honors

	Summa Cum Laude	Magna Cum Laude	Cum Laude
Range of GPA requirements	**3.50 to 4.00**	**3.25 to 3.99**	**3.00 to 3.94**
Most frequently occuring GPA requirements	**3.9 to 4.00**	**3.70 to 3.89**	**3.50 to 3.69**
Average GPA requirements	**3.87 to 4.00**	**3.69 to 3.86**	**3.48 to 3.68**

While Figure 1 shows wide variation in the proportion of students earning honors at nearly every GPA cutoff, a clear trend emerges: requiring higher minimum GPAs to earn each level of honors reduces the proportion of students who do so.

Fig. 1 Relationship between minimum GPA and percent of student earning honors



As the minimum GPA to earn honors rises, the proportion of students earning honors decreases.

This relationship may have some bearing on institutions' performance on the standard. Institutions that have less than a 10 percentage point differential in honors have a slightly higher minimum GPA to earn honors (an average of 3.50) than institutions that have a 10 percentage point or greater differential (an average minimum GPA of 3.47). Using T-tests comparing the GPA minimums of programs in these two groups of institutions, we find a statistically significant difference in average minimum GPAs (p=0.003). However, the magnitude of the difference in GPAs is small — only 0.03 GPA points.

Appendix F:
Statistical relationship between course grades and proportion of grades based on criterion-deficient assignments

The tables below provide data on the strength and statistical significance of the relationship between course grades and the proportion of grades in a course based on criterion-deficient assignments. These tables align with Figure 6 in the *Easy A's and What's Behind Them* report.

Institution A

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=27 courses)	**Strong (r=0.619)**[1]	**Yes (p=0.001)**
Biology, economics, history, nursing, psychology (N=96 courses)	**Moderate (r=0.364)**	**Yes (p=<0.001)**

Unavailable syllabi: 6 teacher prep courses, 0 courses in other disciplines

Institution B

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=15 courses)	**Weak (r=0.132)**	**No (p=0.640)**
Business, history, nursing, psychology (N=47 courses)	**Moderate (r=0.474)**	**Yes (p<0.001)**

Unavailable syllabi: 8 teacher prep courses, 31 courses in other disciplines

2 This statistical output, known as Pearson's r, measures "the strength of the linear relationship between two variables," in this case, percent of criterion-free coursework and course GPA. A value of 0.00 implies that there is no linear relationship, and a value of 1.0 "indicates a perfect linear relationship." Roughly speaking, values from 0.0 to 0.30 are considered weak, values between 0.30 to 0.60 are considered moderate, and values greater than 0.60 are considered strong. However, even a strong correlation does not prove that one variable causes the other. Healey, J. F. (2009). *Statistics: A tool for social research, eighth edition.* Belmont, CA: Wadsworth Cengage Learning.

Institution C

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=48 courses)	**Strong (r=0.639)**	**Yes (p<0.001)**
Biology, economics, management, history, nursing, psychology (N=91 courses)	**Moderate (r=0.423)**	**Yes (p<0.001)**

Unavailable syllabi: 3 teacher prep courses, 4 courses in other disciplines

Institution D

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=39 courses)	**Moderate (r=0.440)**	**Yes (p=0.005)**
Biology, history, nursing, psychology (N=38 courses)	**Weak (r=0.253)**	**No (p=0.126)**

Unavailable syllabi: 8 teacher prep courses, 19 courses in other disciplines

Institution E

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=21 courses)	**Moderate (r=0.475)**	**Yes (p=0.029)**
Psychology, management (N=18 courses)	**Weak (r=0.187)**	**No (p=0.459)**

Unavailable syllabi: 7 teacher prep courses, 16 courses in other disciplines

Institution F

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=27 courses)	**Strong (r=0.607)**	**Yes (p<0.001)**

Unavailable syllabi: 0 teacher prep courses

Institution G

Assignments taken from coursework in this area	Strength of correlation	Statistically significant
Teacher prep courses (N=23 courses)	**Weak (r=0.084)**	**No (p=0.703)**

Unavailable syllabi: 8 teacher prep courses

Appendix G:
Exploring the effects of high grades

The *Easy A's* report considers whether high grades accurately reflect teacher candidates' preparedness to teach, and whether the assignments underpinning those grades are designed to maximize effective feedback. The report provides compelling evidence that teacher candidates earn disproportionately high grades and are likely not receiving the best possible feedback.

However, awarding consistently high grades to teacher candidates may create a risk aside from the assignments to which they are linked. Previous research, described below, has found several hazards attributed to granting consistently high grades. Although we do not think these issues are directly relevant to the report, they do merit attention in any discussion of overwhelmingly high grades.

Grades don't equal learning

A wealth of high grades diminishes the value of these grades as a signal of academic excellence. Some research has rejected the notion that higher grades necessarily represent greater student learning. A comparison between the National Survey of Student Engagement (NSSE)'s findings on their benchmarks of "deep approaches to learning" and students' GPAs found no relationship; one explanation is that "deep learning is not a necessary condition for a high GPA."[1] Additionally, grades are not consistent across instructors, programs, or institutions. It is generally accepted that some professors are more challenging graders than other, and a 4.0 grade point average (GPA) at some institutions represents a greater feat than at others, one of the main reasons that many institutions of higher education use standardized tests such as the SAT and GRE to compare across applicants.

One implication of divorcing grades from learning is that high GPAs will become less meaningful to would-be employers. Employers who consider students' grades when hiring have less information if everyone has a high grade, which helps students with lower academic abilities (who nonetheless receive high grades) and harms students with higher academic abilities.[2]

1 Campbell, C. M. & Cabrera, A. F. (2012). *Making the mark: Are grades and deep learning related?*, p. 14. Presented at the Annual Meeting of the Association for the Study of Higher Education, Las Vegas, NV. The authors note that another possible explanation is that the measures of deep learning may actually be measuring something other than deep learning.

2 Babcock, P. (2010). Real costs of nominal grade inflation? New evidence from student course evaluations. *Economic Inquiry*, 48(4), 983-996.

Widespread high grades may hinder learning

In addition to their failure to *signal* learning, awarding consistently high grades may, in fact, *impede* learning. As a Princeton University committee on reducing grade inflation reported: "Grading done without careful calibration and discrimination is, if nothing else, uninformative and therefore not useful; at worst, it actively discourages students from rising to the challenge to do their best work."[3]

Several studies find that expected high grades are associated with reduced student effort, likely leading to decreased student learning. One study found that students spend about 50 percent less time studying when they expect that the average grade in a course will be an A versus a C.[4] Similarly, a study of students' expectations (rather than behavior) found that students expected to study more (and for the class to generally earn lower grades) in more difficult courses.[5] On the other hand, higher standards may not lead to greater academic perserverance: A longitudinal study that followed high school students for more than a decade found that higher standards for coursework were associated with higher test scores, although not with higher educational attainment.[6]

Implications for teacher candidates

Koedel's work on teacher candidates' grades (referenced in the body of *Easy A's*) draws a connection between high teacher candidate grades and exceptionally high teacher evaluation scores once they enter the classroom. He hypothesizes that teacher candidates who go on to become teachers may rarely receive substantive, critical feedback that compels them to improve their practice.[7]

Whereas teacher evaluations used to simply label teachers as satisfactory or unsatisfactory (and almost always favored the former),[8] states and districts are increasingly moving toward more discerning rating systems. New teacher evaluations are often based on a combination of student outcome data, observations (frequently by multiple observers using a strict rubric), and other measures. These new evaluations are designed to distinguish between more and less effective teachers — and it is not expected that a large percentage of teachers will fall into the highest bracket. When candidates complete teacher preparation programs having been consistently told that their work is not only adequate but exceptional, these programs have failed to prepare them for both the work of teaching and the candid evaluation feedback they are likely to receive.

3 This document was quoted in Kjos, L. (2004, April 23). Analysis: Princeton mulls grade limits. *UPI*. Retrieved 17 April 2014 from http://www.upi.com/Business_News/Security-Industry/2004/04/23/Analysis-Princeton-mulls-grade-limits/UPI-53941082752284/#ixzz2zA9hDQRF.

4 Babcock, P. (2010). Real costs of nominal grade inflation? New evidence from student course evaluations. *Economic Inquiry*, 48(4), 983-996.

5 Ansburg, P. I. (2001). Students' Expectations of Workload and Grade Distribution by Class Difficulty.

6 Betts, J. R., & Grogger, J. (2003). The impact of grading standards on student achievement, educational attainment, and entry-level earnings. *Economics of Education Review, 22*, 343-352.

7 Koedel (Koedel, C. (2011). Grading Standards in Education Departments at Universities. *Education Policy Analysis Archives, 19*(23)).

8 Aaronson, D., Barrow, L., & Sander, W. (2007). Teachers and student achievement in the Chicago public high schools. *Journal of Labor Economics, 25*(1), 95-135; Goldhader, D. D., Brewer, D. J., & Anderson, D. J. (1999). A three-way error components analysis of educational productivity. *Education Economics, 7*(3), 199-208; Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica, 73*(2), 417-458; Weisberg, D., Sexton, S., Mulhern, J., Keeling, D., Schunck, J., Palcisco, A., & Morgan, K. (2009). The widget effect: Our national failure to acknowledge and act on differences in teacher effectiveness. *New Teacher Project*.