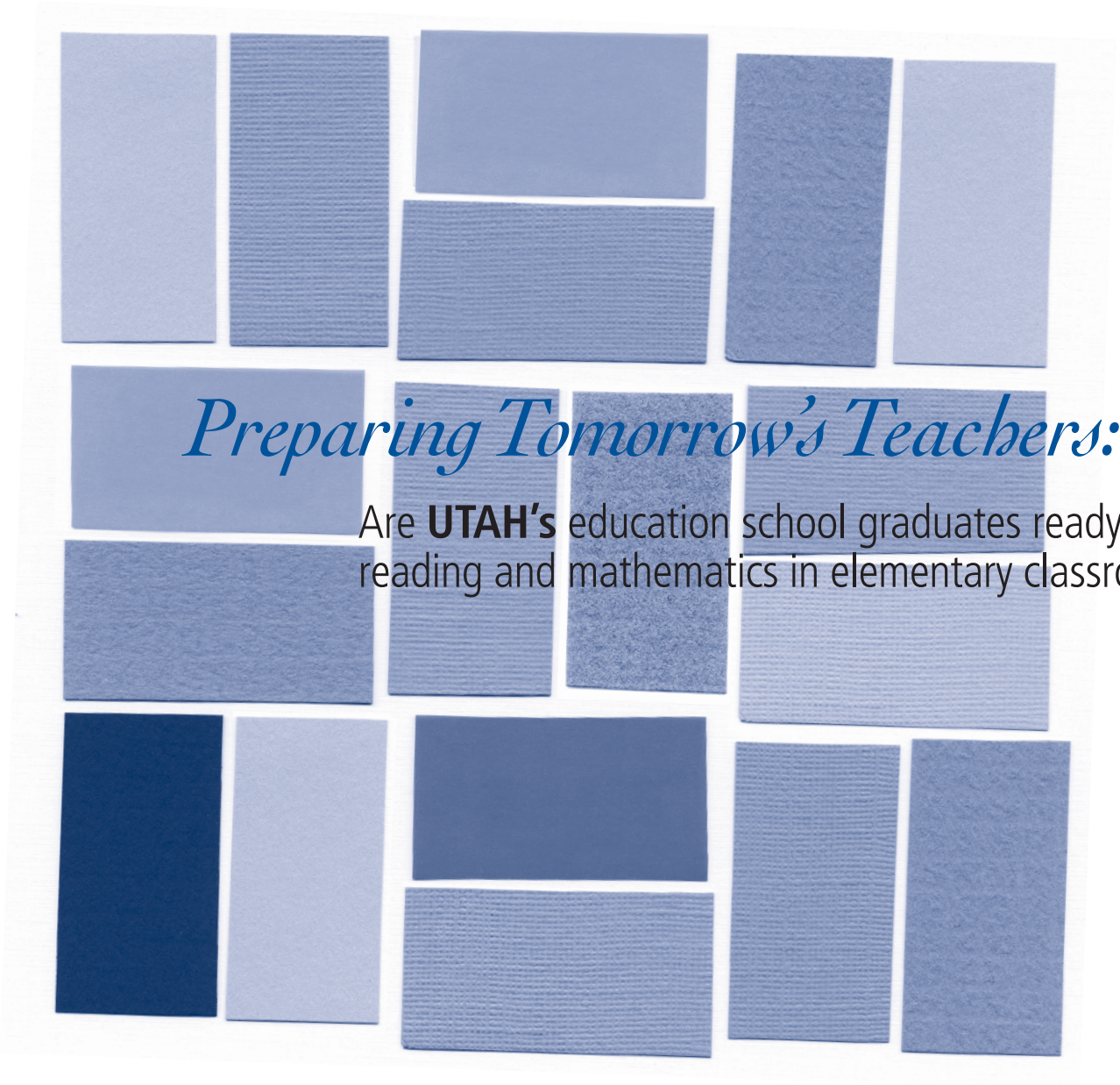

Preparing Tomorrow's Teachers:

Are **UTAH's** education school graduates ready to teach reading and mathematics in elementary classrooms?

September 2009

NATIONAL COUNCIL ON TEACHER QUALITY

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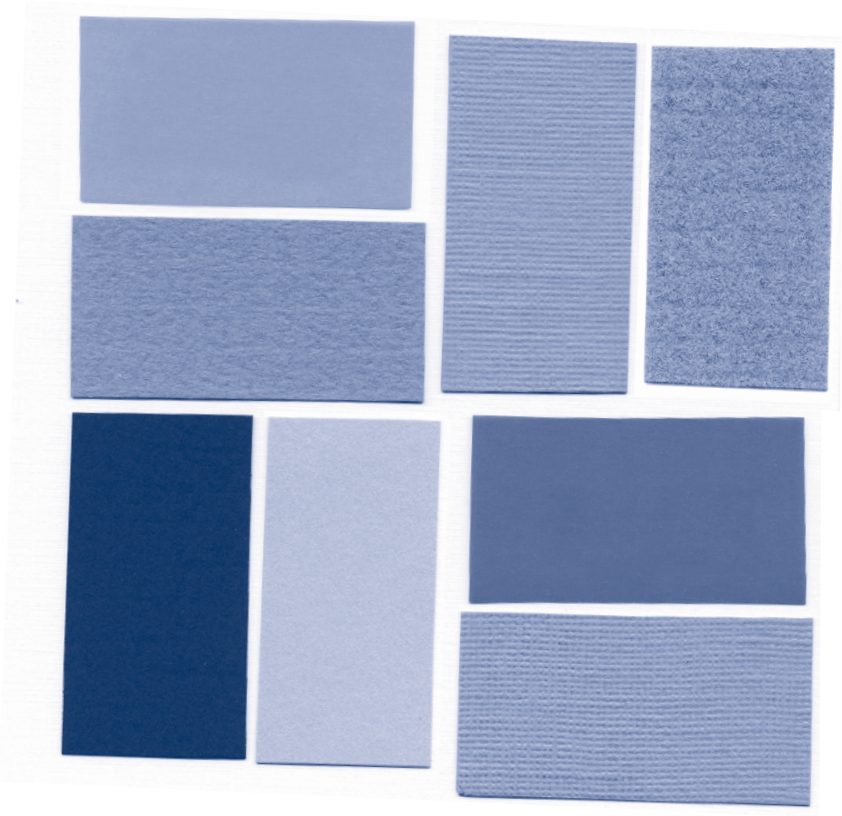


INTRODUCTION

IMPROVING TEACHER EFFECTIVENESS IS HIGH ON THE LIST OF MOST EDUCATION REFORMERS IN UTAH, AS IT IS NATIONALLY. EFFECTIVE TEACHING IN THE ELEMENTARY YEARS IS OF VITAL IMPORTANCE TO ENSURE NOT ONLY THAT CHILDREN MASTER FUNDAMENTAL SKILLS, BUT THAT PERFORMANCE GAPS NARROW RATHER THAN WIDEN BEYOND REPAIR. WE NOW KNOW THAT DISADVANTAGED STUDENTS CAN CATCH UP ACADEMICALLY WITH THEIR MORE ADVANTAGED PEERS IF THEY HAVE GREAT ELEMENTARY TEACHERS SEVERAL YEARS IN A ROW.

It is for these reasons that the National Council on Teacher Quality (NCTQ), a non-partisan research and advocacy group dedicated to the systemic reform of the teaching profession, evaluates the adequacy of preparation provided by undergraduate education schools. These programs produce 70 percent of our nation's teachers. We think it is crucial to focus specifically on the quality of preparation of future elementary teachers in the core subjects of reading and mathematics.

Teacher preparation programs, or "ed schools" as they are more commonly known, do not now, nor have they ever, enjoyed a particularly positive reputation. Further, there is a growing body of research demonstrating that teacher preparation does not matter all that much and that a teacher with very little training can be as effective as a teacher who has had a lot of preparation. As a result, many education reformers are proposing that the solution to achieving better teacher quality is simply to attract more talented people into teaching, given that their preparation does not really matter.

In several significant ways, we respectfully disagree. NCTQ is deeply committed to high-quality formal teacher preparation, but, importantly, we are not defenders of the *status quo*. We also do not believe that it is a realistic strategy to fuel a profession with three million members nationally by only attracting more elite students. Yes, we need to be much more selective about who gets into teaching, and we strenuously advocate for that goal. But even smart people can become better teachers, particularly of young children, if they are provided with purposeful and systematic preparation.

NCTQ has issued two national reports on the reading and mathematics preparation of elementary teachers in undergraduate education schools. The first, *What Education Schools Aren't Teaching about Reading and What Elementary Teachers Aren't Learning* was released in May 2006.[1] The second, *No Common Denominator: The Preparation of Elementary Teachers in Mathematics by America's Education Schools*, followed just over two years later.[2] These reports provide the methodological foundations for this analysis of teacher preparation in every undergraduate program in Utah.

1 http://www.nctq.org/p/publications/docs/nctq_reading_study_app_20071202065019.pdf
NCTQ has also released a report on reading preparation in elementary and special education programs in all of Indiana's undergraduate schools of education: http://www.nctq.org/p/publications/docs/nctq_full_study_indiana_reading_20090304110141.pdf.

2 http://www.nctq.org/p/publications/docs/nctq_ttmath_fullreport_20090603062928.pdf

AN OVERVIEW OF THE QUALITY OF UNDERGRADUATE ELEMENTARY TEACHER PREPARATION IN UTAH

EACH YEAR ABOUT 800 WOMEN AND MEN GRADUATE FROM NINE COLLEGES LOCATED IN UTAH WITH CERTIFICATION TO TEACH ELEMENTARY SCHOOL.[3] THESE PREPARATORY PROGRAMS ARE REGULATED BY THE UTAH STATE OFFICE OF EDUCATION. THIS OFFICE MUST "APPROVE" THESE PROGRAMS, DETERMINING IF THEY MEET STATE REQUIREMENTS AND PROVIDE A SUFFICIENTLY RIGOROUS CURRICULUM TO CONFER A UTAH STATE TEACHING LICENSE ON ANYONE WHO SUCCESSFULLY COMPLETES THE COURSE OF STUDY.

In our 2007 *State Teacher Policy Yearbook*, NCTQ found Utah's policies related to teacher preparation and licensure in need of serious improvement,[4] and our latest edition (forthcoming late in 2009) will show little progress has been made on the numerous goals connected to elementary teacher preparation. Some examples include:

- Utah does not ensure that its teacher preparation programs provide elementary teacher candidates with the broad liberal arts education necessary to be ready to teach to student academic content standards.
- The state does not require teacher preparation programs to prepare new teachers in the science of reading instruction, nor does it test whether new teachers have this critical knowledge before granting licensure.
- The state does not require that applicants to education programs pass at least a test of basic skills. Because Utah delays this requirement until teacher candidates have completed their program and are ready to apply for licensure, programs may lower their instructional rigor to accommodate less capable students, including spending valuable preparation time remediating basic skills.
- The state neither monitors nor caps the amount of professional coursework that programs can require. Such requirements have ballooned; in at least one program, the equivalent of 2 ½ full majors is required.[5]
- The state does not collect objective, measurable data to determine if a program is deserving of state approval. Instead, Utah only requires that programs obtain accreditation from one of the two national accrediting bodies, National Council for Accreditation of Teacher Education (NCATE) or Teacher Education Accreditation Council (TEAC), neither of which has been able to demonstrate that an accredited program has met a higher-quality standard than one that is not accredited.[6]

3 Figures for 2008 indicated 822 graduates, with one program reporting a 2007 figure. The programs are housed in: Brigham Young University, Dixie State College, Southern Utah University, The University of Utah, Utah State University, Utah Valley University, Weber State University, Western Governors University and Westminster College. Western Governors University is an online program that enrolls students nationwide, but is included in this study because it is headquartered in Salt Lake City. The University of Phoenix also offers online teacher preparation in Utah, but is not headquartered in the state and is therefore not included in this study.

4 http://www.nctq.org/stpy/reports/stpy_utah.pdf

5 Utah Valley University

6 See A. Levine. "Educating School Teachers,"(Washington, D.C.: The Education Schools Project, 2006) 61-70.

While this study does not cover all of these challenges, the state's regulatory framework provides important context for the focus of this paper. State regulatory weaknesses undoubtedly account for some program deficiencies, but we would argue they do not excuse them. There are no legitimate impediments to individual preparation programs filling any vacuum left by the state, and, in a few cases, programs do just that. For example, even though the state does not require that applicants to education schools pass a basic skills test, five Utah programs do have entrance examinations that test for reading, writing and mathematics proficiency.[7]

SCOPE OF THIS ANALYSIS

WE EVALUATED UTAH'S NINE UNDERGRADUATE ELEMENTARY TEACHER PREPARATION PROGRAMS ACROSS FOUR CRITICAL AREAS:

- Admission standards
- Teacher preparation in reading
- Teacher preparation in elementary mathematics
- Exit standards

METHODOLOGY: ADMISSION STANDARDS

Most teacher preparation programs in the U.S., even those housed in departments rather than professional schools, have an application process that takes place at the end of the sophomore or beginning of the junior year of undergraduate education. This application process presents an opportunity to select only candidates that meet high standards. Unfortunately, in programs across the nation, not just in Utah, this is an opportunity that is currently squandered. Most of the nation's teachers come from the bottom third of high school graduates going to college. In contrast, countries whose students outperform ours consistently attract more elite students, the top five percent in South Korea, the top 10 percent in Finland and the top 30 percent in Singapore.[8]

Utah does not require that teacher preparation programs have any admission standards, but the end result is probably not much different than in states that do have such requirements. For example, 30 states require that applicants take the Praxis I, but this tests knowledge of mathematics, reading, and writing that is typically acquired in sixth or seventh grade. Further, states set the minimum passing score so low that a candidate need only answer about 40 to 60 percent of the items correctly.

Ideally, admission tests should require that future elementary teachers demonstrate true proficiency at the high school level, whether they acquire that proficiency in high school or through remediation in their first few years of college.[9]

7 Southern Utah University and Weber State University require the Collegiate Assessment of Academic Proficiency (CAAP), the University of Utah and Western Governors University require the Praxis I, and Utah Valley University requires the Praxis II (Utah's licensing test for teacher candidates in traditional preparation programs).

8 McKinsey & Co., "How the World's Best-Performing School Systems Come Out on Top," (September 2007) 16.

9 For recommendations on mathematics standards for admission, see http://www.nctq.org/p/docs/nctq_nmsi_stem_initiative.pdf.

In rating admission standards, we evaluate whether programs limit teacher preparation programs to candidates in the top half of high school students going to college. To determine if this standard is met, we first look at the selectivity of the college or university of which each program is a part, as rated by *U.S. News and World Report*. Programs in colleges that are "more selective" or "most selective" meet the standard, since applicants to the teacher preparation programs have already met the college's rigorous admission standards. For programs in colleges or universities with lower selectivity, we then look at whether the program uses a standardized test for admission that is designed to identify the appropriate level of academic proficiency.[10] For this purpose, a test designed for the general college-going population, rather than a test such as the Praxis I designed solely for use by prospective teachers, is best.[11]

METHODOLOGY: STANDARDS FOR TEACHER PREPARATION IN READING

Student reading achievement in Utah remains a chronic problem, one that is unfortunately shared throughout the country. On the most recent National Assessment of Educational Progress (NAEP) assessments, 66 percent of Utah fourth graders and 70 percent of Utah eighth graders read below the proficient level.[12] Over the past 60 years, scientists from many fields have worked to determine how people learn to read and why some people struggle. This science of reading has lead to a number of breakthroughs that can dramatically reduce the number of children destined to become functionally illiterate or barely literate adults. By routinely applying in the classroom the lessons learned from these scientific findings, most reading failure could be avoided. It is estimated that the current failure rate of 20 to 30 percent could be reduced to the range of 2 to 10 percent.

Despite the overwhelming evidence, educators have been slow to adopt these scientifically based practices. In our first national study of teacher preparation, in a representative sample of 72 institutions, we found that only 15 percent were teaching the five instructional components of the science of reading (phonemic awareness, phonics, fluency, vocabulary and comprehension) in even the most rudimentary sense.

Our rating of Utah's teacher preparation programs on reading preparation uses the same methodology employed in our national study. Programs are reviewed to determine whether instruction is provided on the five components of the science of reading in any reading course required of students who aspire to teach kindergarten or grade one through grade six. We looked for such evidence both in course syllabi and in reviewing each of the required textbooks. (To date, we have reviewed over 600 such textbooks.) When we encountered any sort of ambiguity, we always gave the school the benefit of the doubt.

We understand that a course's intended goals and topics as reflected by syllabi and textbooks may differ from what actually happens in the classroom. However, it is reasonable to assume that college professors give thought and consideration to their syllabi and course readings, which represent the intended

10 To illustrate that a "selective" rating for an institution may not be sufficient as a screen for admissions to an education school, note that the middle 50 percent of students in Utah's three "selective" colleges had ACT Composite Scores ranging from a low range of 18 to 24 points to a high range of 21 to 27 points. These score ranges correspond to sums of SAT Critical Reading and Math scores from a low range of 870 to 1110 points to a high range of 990 to 1220 points. The nation's average SAT score sum in 2008 was 1017.

11 Due to the level of academic proficiency of most students seeking to become teachers, even a minimum passing score that appears quite selective among teacher candidates does not select for the top half of the college-going population.

12 These numbers track closely to the national averages. See http://www.nces.ed.gov/nationsreportcard/states/profile.asp.

structure of their courses and emphasize what they view as essential knowledge. If anything, less—not more—of what the syllabi and texts suggest is apt to be covered in class.

Nonetheless, in recognition of the inherent limitations of our methodology, we always invite programs to submit additional materials. Only two did so.

Reviews of both the reading textbooks used in Utah and recommended textbooks not used in the state can be found in Appendix A. Our national study contains more information on the science of reading and the methodology used in evaluating reading preparation.[13]

METHODOLOGY: STANDARDS FOR TEACHER PREPARATION IN MATHEMATICS

Compared to their counterparts in other countries, the performance of American students in mathematics is mediocre. In turn, compared to their counterparts in other states, the performance of Utah's students in mathematics is mediocre. On the most recent NAEP, 60 percent of Utah fourth graders and 68 percent of Utah eighth graders had mathematics scores below the proficient level.[14] Since mathematics knowledge is cumulative, a critical step in improving this performance is the foundation laid throughout elementary school. Achieving results there is directly linked to the capability of elementary teachers to provide effective instruction in mathematics.

There is increasing consensus that prospective elementary teachers – who are notoriously weak in mathematical competency – are best trained by college mathematics courses that are designed specifically for teachers and that impart a deep understanding of elementary and middle school mathematics concepts. A calculus or statistics course is fine to take as an elective, but numerous professional organizations of mathematicians recommend that aspiring elementary teachers take three semester courses in "elementary mathematics content."[15] These courses should cover four subject areas: numbers and operations, algebra, geometry and measurement, and – to a lesser degree – data analysis and probability.

Despite this emerging consensus on how to prepare elementary teachers to be truly competent mathematics instructors, there is enormous variability in the nature of coursework requirements among education schools in the U.S. Our second national study of teacher preparation in a representative sample of *77* institutions found that only 13 percent were doing an adequate job.

NCTQ's rating of Utah's teacher preparation programs on mathematics preparation is based on examination of syllabi and required primary textbooks in coursework designed for teacher audiences. These materials were used to assess whether the coursework covers essential topics in mathematics and devotes sufficient time to those topics. It should be noted that there are far fewer mathematics textbooks than reading textbooks: About a dozen mathematics textbooks are chosen for use repeatedly, whereas the number of reading textbooks we have reviewed for our studies now totals approximately 600, with no end to new ones in sight.

13 http://www.nctq.org/p/publications/docs/nctq_reading_study_app_20071202065019.pdf

14 These numbers track closely to the national averages. See http://www.nces.ed.gov/nationsreportcard/states/profile.asp.

15 We also recommend that aspiring elementary teachers take a semester course dealing with methods of teaching mathematics at the elementary level (not a methods course that addresses multiple subjects and/or multiple grade spans). Our rating process does not, however, include consideration of methods coursework.

As in the case of reading preparation, we believe that the syllabi and textbooks capture the scope of knowledge that the professor thinks is important, but we would have supplemented our review with any additional materials had programs provided them to us in response to our solicitation. Only two did so. Again, as in the case of our reading analysis, our evaluations in mathematics preparation were generous, always giving a program the benefit of the doubt if we encountered any ambiguity.

Reviews of both elementary content mathematics textbooks used in Utah and recommended textbooks not used in the state can be found in Appendix B. Our national study contains more information on the elementary content coursework that is recommended for elementary teacher preparation and the methodology used to evaluate that preparation.[16]

METHODOLOGY: EXIT STANDARDS

If elementary teachers are to teach well, they must acquire many essential teaching skills as well as a solid understanding of content. Licensing examinations are required by states to ensure that teachers meet a minimum standard for subject-matter knowledge. Unfortunately, for a number of reasons that we will enumerate, most current elementary teacher licensing examinations now used in the U.S. are not up to the task. In lieu of sufficient exit standards required by the state, elementary teacher preparation programs that have a serious commitment to ensuring the quality of their graduates should have their own exit examinations.

Utah requires that all aspiring elementary teachers pass the Praxis II Elementary Education: Content Knowledge test to receive a license. It is one of 26 states using the Praxis II for licensing purposes, and among the states that administer this test, its minimum passing score, or "cut" score, is third highest. Even though Utah has set a more rigorous passing score than most of the other states, the test is wholly inadequate to the task of determining whether an elementary teacher knows sufficient content.

The structure and scoring of the Praxis II is fundamentally flawed. A candidate's score represents a composite of his or her performance in four different areas (reading/language arts,[17] mathematics, science, and social studies). While area subscores are computed and reported to teacher preparation programs, passing scores are not established for each specific subject area. To achieve an overall passing score, it is not necessary to do well on all areas of the test, as if a newly hired teacher can be excused from having to teach each subject with at least a minimum level of competence. For example, it may be possible to answer almost every mathematics problem incorrectly and still pass the test.

The Praxis II is also inadequate because it tests content understanding at only the elementary and middle school level. To teach mathematics well to an elementary student requires more than a superficial understanding that barely exceeds what is taught. Further, independent studies of Praxis reading tests have

16 http://www.nctq.org/p/publications/docs/nctq_ttmath_fullreport_20090603062928.pdf

17 The Praxis II Content Knowledge test includes knowledge of reading instruction, which would more accurately fall under the heading of pedagogy than content knowledge. While some states require a separate test of reading pedagogy, many states, like Utah, rely solely on the content test to measure candidates' knowledge of reading instruction.

deemed most tests in this series—including the test used by Utah—inadequate for assessing knowledge of scientifically based reading instruction.[18]

Because the Praxis II is not adequate to the task of ensuring that elementary teachers have acquired the necessary knowledge, Utah should develop a better test or adopt assessments in use in other states. No state has developed rigorous licensing tests with separate passing scores for every subject taught in elementary school, but a few states have made progress on the important subjects of reading and mathematics. Massachusetts and Virginia have rigorous, stand-alone tests of reading pedagogy. Massachusetts has also developed a rigorous, stand-alone mathematics test.[19]

In the absence of an adequate state licensing test, it is incumbent upon Utah's teacher preparation programs to use their own series of exit tests to verify that graduates meet acceptable levels of performance. Because no program in the state currently reports having an exit test, every program received a failing grade on this standard.

OTHER DATA REPORTED

Every preparation program in Utah is required by the state to meet accreditation standards, and we note on each rating sheet which type of accreditation has been obtained: NCATE or TEAC. Our indication of the type of accreditation does not represent a rating of any kind, as there is no evidence that links accreditation to higher-quality preparation or that shows it has the effect of improving preparation.

Each rating sheet also identifies the three opportunities we afforded the nine preparation programs to provide us with comments or additional course materials relevant to our evaluation.

The first letter asked that programs confirm that we had correctly identified the proper reading and mathematics coursework for our analyses. Four did so.

In a later mailing, we sent the preliminary results of our analyses in reading and mathematics preparation to the programs. They were asked to provide any additional materials that might lead us to alter our rating. As already noted, only four elected to do so.

Our last letter solicited general comments of any kind. Responses from programs are found in Appendix C.

18 S. Stotsky, "Why American Students Do Not Learn to Read Very Well: The Unintended Consequences of Title II and Teacher Testing," Third Education Group Review, Vol. 2 No. 2 (2006); and D. W. Rigden, "Report on Licensure Alignment with the Essential Components of Effective Reading Instruction" (Washington, D.C.: Reading First Teacher Education Network, 2006).

19 http://www.doe.mass.edu/news/news.asp?id=3801

FINDINGS

UTAH'S TEACHER PREPARATION PROGRAMS BENEFIT FROM A MORE SELECTIVE POOL OF APPLICANTS DUE TO THE SELECTIVITY OF SOME OF ITS COLLEGES AND UNIVERSITIES.

About one third of the undergraduates in Utah's elementary education programs may meet relatively high academic standards, but that is only because a greater-than-usual proportion of Utah's teachers is produced by three colleges that are "more selective."[20] Because of the levels of selectivity of their colleges, the remaining six education programs face a higher hurdle in screening for truly proficient teacher candidates, and none meets that challenge.

ALTHOUGH MOST PREPARATION PROGRAMS IN UTAH PROVIDE SOME EXPOSURE TO EFFECTIVE READING INSTRUCTION, FEW FULLY PREPARE CANDIDATES TO TEACH THE SCIENCE OF READING.

Two of Utah's nine preparation programs provide training to teacher candidates in all five components of effective reading instruction. Another four programs come close, covering four of the five components, but the absence of one component does not inspire confidence in these programs. This is not a situation in which "coming close" is good enough. Even more importantly, it is notable that the component most often overlooked by these four programs is phonemic awareness, the fundamental building block of emergent literacy.

Two programs addressed only one component, and one program did not cover any aspect of the science of reading.

Though these results are discouraging, they did represent a higher percentage of programs attempting to teach the science of reading than we found in either our national study or in studies of other states.

PROGRAMS USE A WIDE VARIETY OF READING TEXTBOOKS, MANY OF WHICH DO NOT ADDRESS THE SCIENCE OF READING.

We found more than 30 different reading textbooks in use in Utah's nine preparation programs. Although more programs used core and supplemental texts that appropriately addressed the science of reading than we have found in other states, many programs that used these strong texts also used unacceptable texts. As a result, teacher candidates are exposed to inaccurate, incomplete, and often misleading accounts of reading instruction. When a strong text is in use in a particular course, we found that there was a high likelihood that students would be exposed to an extremely poor one in their next course.

ONLY TWO UTAH PREPARATION PROGRAMS SATISFACTORILY COVER THE MATHEMATICS CONTENT THAT ELEMENTARY TEACHERS NEED, AND THREE ARE SERIOUSLY DEFICIENT. ALGEBRA PREPARATION IS UNIVERSALLY INADEQUATE.

There is less variation in Utah than we found in our national study on the number and nature of mathematics courses required of aspiring elementary teachers. Nonetheless, four of the programs need to add more elementary content coursework and three others need to both add elementary content coursework and improve that coursework's focus and textbook support.

20 These institutions are Brigham Young University, The University of Utah and Westminster College. Together the graduates of these three institutions represent just over one-third of the total number of graduates of elementary education programs in the state.

Attention to algebra is as paltry in Utah as we found nationally: On average, the state's prospective elementary teachers are shortchanged 24 hours on the algebra instruction needed to adequately prepare their elementary students for middle school mathematics.

A MINORITY OF UTAH'S PREPARATION PROGRAMS HAVE SELECTED STRONG TEXTBOOKS FOR MATHEMATICS CONTENT COURSEWORK.

Only four preparation programs (about 44 percent) utilize a textbook that is strong in all four critical areas of mathematics. This is a slightly larger proportion than we found in our national study, in which only about 35 percent used adequate textbooks. Of the five programs that have not selected adequate textbooks, three programs' textbooks are weak in algebra, one program's textbook is weak in numbers and operations and in algebra, and the other program does not use elementary mathematics content textbooks at all in its content courses.

MOST OF UTAH'S PREPARATION PROGRAMS HAVE A DEDICATED ELEMENTARY MATHEMATICS METHODS COURSE.

Six preparation programs (about 70 percent) require a three-credit course in elementary mathematics methods. This is a larger proportion than we found in our national study, in which only about half of the programs did so.

Of the three remaining programs, two programs had courses that too ambitiously covered both elementary and middle level mathematics in their methods courses. The remaining program even more unwisely covered both elementary and middle level mathematics and science in one methods course. While instructional efficiencies may be gained in a methods course addressing mathematics and science pedagogy at the secondary level, no such efficiencies exist in the early grades.

NO PREPARATION PROGRAM IN THE STATE ENSURES THAT ASPIRING ELEMENTARY TEACHERS KNOW THE SCIENCE OF READING INSTRUCTION AND UNDERSTAND ELEMENTARY MATHEMATICS CONTENT AT A DEPTH THAT IS SUFFICIENT FOR INSTRUCTION.

The unequivocal weakness of the Praxis II content test as an assessment of the capacity to teach elementary school necessitates that Utah's preparation programs develop and use exit assessments that do so. No program has recognized this need and responded to it.

RECOMMENDATIONS

STATES

It falls to states to spearhead improvement of education schools by better exercising the oversight authority that they already hold. Most education schools or departments will only be able to overcome possible internal resistance or resistance from other departments in their institutions if reform is statewide.

THE UTAH STATE BOARD OF EDUCATION SHOULD ESTABLISH ENTRANCE STANDARDS FOR THE STATE'S TEACHER PREPARATION PROGRAMS TO ENSURE THAT EVERY ASPIRING TEACHER ENTERS ALREADY POSSESSING APPROPRIATE READING, WRITING AND MATHEMATICAL SKILLS. THESE ENTRANCE STANDARDS SHOULD INCLUDE ACCEPTABLE SCORES ON STANDARDIZED ASSESSMENTS SUCH AS THE COLLEGIATE ASSESSMENT OF ACADEMIC PROFICIENCY.[21]

With few exceptions, there is a quite plausible perception among education schools that they cannot individually raise their admission standards without putting themselves at a disadvantage in the competition for students. The pressure these institutions face to accept a sufficient number of students makes it incumbent upon states to raise the bar for all education schools, not just relegate the task to a few courageous volunteers.

The fact that a large and increasing number of teacher candidates applying for admission to teacher preparation programs are transferring from two-year institutions further underscores the need to establish a uniform threshold for admission.

The argument that this will lead to shortages of teacher candidates is a red herring commonly offered to resist change. A significant problem in the profession is that more talented students eschew teacher preparation because the programs are perceived as unchallenging and dull, instead entering teaching through alternative routes. Programs can teach to a higher standard and still produce the number of teachers needed by elementary schools, as Massachusetts has found since 2001-2002, when new and more rigorous requirements and assessments began to be phased in.

THE UTAH STATE BOARD OF EDUCATION SHOULD DEVELOP STRONG COURSE STANDARDS IN READING AND MATHEMATICS AND ADOPT WHOLLY NEW ASSESSMENTS TO TEST FOR THOSE STANDARDS.

Utah currently requires elementary teacher candidates to complete an unspecified amount of "study and experiences" in reading and mathematics. These guidelines are far too general. Only a combination of standards *and* coursework requirements ensures that education schools do not decide independently, and all too often inappropriately, what should be taught. Absent a test, however, even this combination provides no assurance that education schools are teaching to the necessary standards.

For an example of a regulatory framework that ensures that elementary teachers are prepared to teach the science of reading, Utah should look to Virginia or Massachusetts. Virginia requires all teacher candidates to complete coursework that focuses on the science of reading and to pass a reading exam. Massachusetts has standards that clearly address the science of reading and also requires all elementary

21 The Collegiate Assessment of Academic Proficiency (CAAP) is the standardized, nationally normed assessment program from ACT designed to be administered after a student's sophomore year that enables postsecondary institutions to assess and evaluate the outcomes of their general education programs. A test such as the CAAP, designed for the general college-going population, is better for identifying the appropriate level of academic proficiency than a test designed solely for use by prospective teachers.

candidates to pass a reading exam. The tests offered by both Virginia and Massachusetts have been rated as among a very small number that actually verify teacher candidates' knowledge of the science of reading.[22]

Massachusetts is also a model for developing a regulatory framework that accomplishes these goals in the area of mathematics preparation. Our national study of the preparation of elementary teachers in mathematics discusses Massachusetts' regulations and assessment in some detail.[23]

THE UTAH STATE BOARD OF EDUCATION SHOULD ELIMINATE ITS GRADE 1-8 CERTIFICATION. THIS CERTIFICATION ENCOURAGES THE TWO EDUCATION SCHOOLS THAT OFFER IT TO BROADLY PREPARE TEACHERS, WHILE REQUIRING TOO FEW COURSES SPECIFIC TO TEACHING ANY GRADE SPAN.

While grade 1-8 preparation is theoretically possible, institutions devote fewer courses than would be needed to provide sufficient preparation for all of these grades. The majority of states no longer allow this certification.

EDUCATION SCHOOLS

TO IMPROVE READING PREPARATION	TO IMPROVE MATHEMATICS PREPARATION
1. Build faculty expertise in the science of reading. Whether the lack of teacher preparation in the science of reading is due to philosophical opposition or unawareness of the research science, education schools must have the expertise to deliver scientifically based reading coursework.	1. Education schools should require three mathematics courses addressing elementary and middle school topics and one mathematics methods course focused on elementary topics and numbers and operations in particular.[24]
2. Ensure that the overall program design allows for sufficient and proper coverage of reading instruction, with a coordinated sequence of teacher training in reading. Too many programs have courses with repeated or overlapping content, while significant topics go unaddressed.	2. Teacher preparation programs should make it possible for an aspiring teacher to test out of mathematics content course requirements. Current licensing tests are inadequate, but a new generation of standardized tests that can evaluate mathematical understanding at the requisite depth may soon be available.

22 Stotsky (2006) and Rigden (2006).

23 See p. 54 of the report at http://www.nctq.org/p/publications/docs/nctq_ttmath_fullreport_20090603062928.pdf.

24 This recommendation is a relatively easy fix. Utah's aspiring elementary teachers are currently required to take at least one general-audience mathematics course in addition to one or more specific mathematics courses targeted just at elementary teachers. Those programs that require fewer than eight credits of elementary mathematics coursework can quickly move toward meeting this standard without increasing coursework burdens by requiring more elementary content coursework instead of general-audience coursework. As the mathematical foundations of prospective teachers improve with higher entrance standards, less elementary content coursework may be required.

3. Provide guidance to help instructors select strong textbooks from the vast number of available options. The wide range of textbooks in use means that teacher candidates are exposed to different but inaccurate, incomplete, and often misleading accounts of reading instruction.

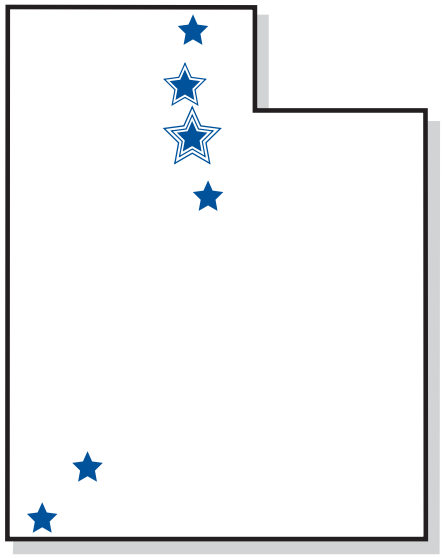
3. Algebra must be given higher priority in elementary content instruction. While elementary teachers do not deal explicitly with algebra in their instruction, they need to understand it as the generalization of the arithmetic they address while studying numbers and operations. They also need to be aware of algebra's connection to many of the patterns, properties, relationships, rules and models that will occupy their elementary students.

INSTITUTIONAL ADMINISTRATORS AND TEACHER EDUCATION PROGRAMS

Unlike teacher preparation in reading, which is typically contained in the education school, preparation in mathematics usually involves both the education school and the mathematics department. For that reason, university administrators must take the lead in orchestrating the interdepartmental communication, coordination, and innovation necessary for coherent preparation of elementary teachers for mathematics instruction.

By itself, leadership from the education department is not sufficient for improving instruction in the content courses elementary teachers need in mathematics. Mathematics departments must find the means to staff elementary content courses with instructors who have adequate professional preparation in mathematics and ensure that instruction is rigorous and relevant. These instructors might find helpful the syllabi, lecture notes and other resources we have posted at www.nctq.org/resources/math.

PROGRAM RATINGS



Utah State University, Logan

Utah Valley University, Ogden
Weber State University, Ogden

The University of Utah, Salt Lake City
Western Governors University, Salt Lake City
Westminster College, Salt Lake City

Brigham Young University, Provo

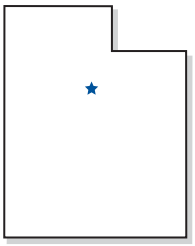
Southern Utah University, Cedar City

Dixie State College, St. George

Brigham Young University

Provo, Utah

David O. McKay School of Education



I. Admission standards ●

Comments: Rating is based on "more selective" university admissions. Education school candidates are not screened using any standardized assessment of academic proficiency.

II. Teacher preparation in reading ◕

Areas of strength: Coursework includes preparation to teach phonics, fluency, vocabulary and comprehension strategies.

Areas of weakness: No evidence that coursework includes preparation in phonemic awareness. Most textbooks in use do not appropriately or adequately address the science of reading.

Remedy: Provide training in teaching phonemic awareness strategies and select textbooks that address the science of reading.

Textbooks: *Literacy for the 21st Century: A Balanced Approach* (3rd ed) by Gail E. Tompkins, *Literacy for the 21st Century: A Balanced Approach* (4th ed) by Gail E. Tompkins, *Qualitative Reading Inventory - 4* (4th ed) by Lauren Leslie and JoAnne Caldwell, *Self-Paced Phonics: A Text for Educators* (3rd ed) by G. Thomas Baer

III. Teacher preparation in mathematics ◔

Areas of weakness: Coursework lacks depth and does not cover essential topics. Textbooks are appropriate for methods courses, not content courses.

Remedy: Additional coursework with better focus and textbooks.

Textbooks: No content textbooks.

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Accreditation: **NCATE** ✓ **TEAC** ✓ (Candidate) **None**

Number of elementary teachers produced: 236 (highest in state)

Data are from 2007-08, the most recent available from the National Center for Education Statistics.

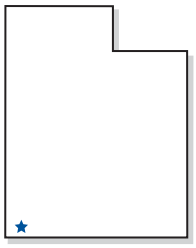
Opportunities for institution to respond: Correspondence: April 8, 2009; June 26, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Dixie State College of Utah

St. George, Utah

Education Department



I. Admission standards ○

Comments: The college is not selective in its undergraduate admissions, nor are education majors screened using any standardized assessment of academic proficiency.

II. Teacher preparation in reading ○

Areas of weakness: No preparation is provided in the science of reading.
Remedy: Coursework should address instruction in phonemic awareness, phonics, fluency, vocabulary and comprehension strategies.
Textbooks: *Literacy for the 21st Century: A Balanced Approach* (4th ed) by Gail E. Tompkins, *Self-Paced Phonics: A Text for Educators* (4th ed) by Roger S. Dow and G. Thomas Baer

III. Teacher preparation in mathematics ◕

Areas of weakness: Coursework lacks depth.
Remedy: Additional coursework.
Textbooks: *Mathematics for Elementary Teachers: A Contemporary Approach* (7th and 8th eds) by Gary L. Musser, William F. Burger, Blake E. Peterson

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Accreditation: **NCATE** **TEAC** ✓ (Candidate) **None**

Number of elementary teachers produced: 41 (7th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

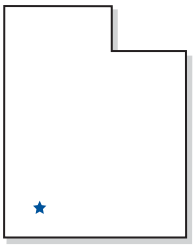
Opportunities for institution to respond: Correspondence: April 8, 2009; June 26, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Southern Utah University

Cedar City, Utah

Beverley Taylor Sorenson College of Education and Human Development



I. Admission standards ◑

Comments: The university is not "more" or "most selective" in its admissions. The education school uses the CAAP to screen applicants for academic proficiency with the minimum levels set at the 20th-39th percentile of college students.

II. Teacher preparation in reading ◕

Areas of strength: Coursework includes preparation to teach phonemic awareness, phonics, vocabulary and comprehension strategies.

Areas of weakness: No evidence that coursework includes preparation to teach fluency strategies.

Remedy: Provide training in teaching fluency strategies.

Textbooks: *Activities for a Comprehensive Approach to Literacy* by Nancy Lee Cecil, *Literacy: Helping Children Construct Meaning* (7th ed) by J. David Cooper and Nancy D. Kiger, *Striking a Balance: Best Practices for Early Literacy* (3rd ed) by Nancy Lee Cecil, *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (4th ed) by Donald R. Bear, et al.

Comments: The required course "Foundations of Teaching Literacy in Elementary Schools" does not address any aspect of the science of reading.

This teacher preparation program was previously reviewed in NCTQ's 2006 national reading study. Its score has remained the same, with the program covering four of the five components of the science of reading.

III. Teacher preparation in mathematics ◕

Areas of strength: Textbook

Areas of weakness: Coursework lacks depth.

Remedy: Additional coursework.

Textbooks: *A Problem-Solving Approach to Mathematics for Elementary School Teachers* (9th ed) by Rick Billstein, Shlomo Libeskind, Johnny W. Lott

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation: **NCATE ✓** **TEAC ✓** **None**

Number of elementary teachers produced: 97 (4th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

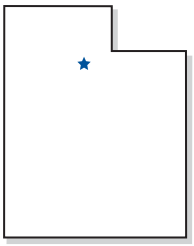
Opportunities for institution to respond: Correspondence: April 8, 2009; June 21, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

The University of Utah

Salt Lake City, Utah

College of Education



I. Admission standards ●

Comments: Rating is based on "more selective" university admissions. While the education school uses the Praxis I as a screen for academic proficiency, the minimum level for proficiency is set below the 50th percentile of the nation's applicants to teacher preparation programs.

II. Teacher preparation in reading ●

Areas of strength: Coverage of all components of the science of reading.

Textbooks: *Action Strategies for Deepening Comprehension: Role Plays, Text Structure Tableaux, Talking Statues, and Other Enrichment Techniques That Engage Students with Text* by Jeffrey D. Wilhelm; *Bringing Words to Life: Robust Vocabulary Instruction* by Isabel L. Beck, et al; *Literacy Difficulties: Diagnosis and Instruction for Reading Specialists and Classroom Teachers* (2nd ed) by Cathy Collins Block; *Put Reading First: The Research Building Blocks for Teaching Children to Read* by Bonnie Armbruster, et al; *Research-Based Methods of Reading Instruction: Grades K – 3* by Sharon Vaughn and Sylvia Linan-Thompson; *The Struggling Reader: Interventions That Work* by J. David Cooper, et al; *Teaching Children to Read: The Teacher Makes the Difference* (5th ed) by D. Ray Reutzel and Robert B. Cooter; *Teaching Reading in the 21st Century* (4th ed) by Michael F. Graves, et al.

III. Teacher preparation in mathematics ●

Areas of strength: Coverage of most essential topics with adequate depth.

Areas of weakness: Algebra instruction could be strengthened. This rating is for preparation for instruction in grades 1-6, the grades on which the program states it is focused. The program offers certification for grades 1-8 but content preparation is inadequate for instruction in grades 7 and 8.

Remedy: Increased focus on algebra and a textbook stronger in this subject.

Textbooks: *Mathematics for Elementary Teachers: A Contemporary Approach* (7th ed) by Gary L. Musser, William F. Burger, Blake E. Peterson

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

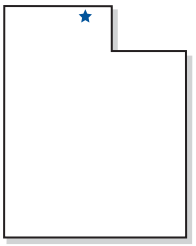
Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation: **NCATE** **TEAC** ✓ (Candidate) **None**

Number of elementary teachers produced: 46 (6th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

Opportunities for institution to respond: Correspondence: April 8, 2009; June 26, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable



Utah State University

Logan, Utah

Emma Eccles Jones College of Education and Human Services

I. Admission standards ○

Comments: The university is not "more" or "most selective" in its admissions. Beginning in July 2010 the education school will use the Praxis II to screen applicants for academic proficiency, but the minimum passing score will be set below the 50th percentile of the nation's teacher licensure applicants.

II. Teacher preparation in reading ◕

Areas of strength: Coursework includes preparation to teach phonics, fluency, vocabulary, and comprehension strategies.

Areas of weakness: No evidence that coursework includes preparation to teach phonemic awareness

Remedy: Provide training in teaching phonemic awareness strategies..

Textbooks: *Concepts About Print: What Have Children Learned About the Way We Print Language?* by Marie M. Clay; *Early Literacy Instruction: A Comprehensive Framework for Teaching Reading and Writing, K-3* (1st ed) by John A. Smith and Sylvia Read; *Essentials of Children's Literature* (6th ed) by Carol Lynch-Brown and Carl M. Tomlinson; *Language Arts: Content and Teaching Strategies* (5th ed) by Gail E. Tompkins; *Teaching Reading Sourcebook: Sourcebook for Kindergarten Through Eight Grade* (1st ed) by Bill Honig, et al. *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (3rd ed) by Donald R. Bear, et al.

III. Teacher preparation in mathematics ◔

Areas of weakness: Coursework does not cover essential topics (particularly in algebra and data analysis) and lacks depth.

Remedy: Additional coursework with better focus.

Textbooks: *Mathematics for Elementary Teachers: A Contemporary Approach* (7th ed) by Gary L. Musser, William F. Burger, Blake E. Peterson

Comments: This program received the same rating in *No Common Denominator*, our national report on the preparation of elementary teachers in mathematics, issued in June 2008.

IV. Exit standards ◔

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation: **NCATE** **TEAC** ✓ (Candidate) **None**

Number of elementary teachers produced: 155 (2nd highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

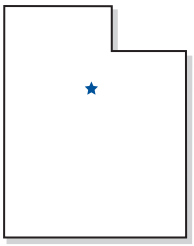
Opportunities for institution to respond: Correspondence: April 8, 2009; June 26, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Utah Valley University

Orem, Utah

School of Education



I. Admission standards ◔

Comments: The university is not "more" or "most selective" in its admissions. The education school uses the Praxis II to screen applicants for academic proficiency, but the minimum passing score is set below the 50th percentile of the nation's teacher licensure applicants.

II. Teacher preparation in reading ◕

Areas of strength: Coursework includes preparation to teach phonics, fluency, vocabulary and comprehension strategies.

Areas of weakness: No evidence that coursework includes preparation to teach phonemic awareness.

Remedy: Provide training in teaching phonemic awareness strategies.

Textbooks: *Creating Literacy Instruction for All Students* (6th ed) by Donald G. Gunning; *Put Reading First: The Research Building Blocks for Teaching Children to Read* by the Bonnie Armbruster, et al. *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (4th ed) by Donald R. Bear, et al.

III. Teacher preparation in mathematics ◕

Areas of strength: Textbook

Areas of weakness: Coursework lacks depth.

Remedy: Additional coursework.

Textbooks: *A Problem-Solving Approach to Mathematics for Elementary School Teachers* (9th ed) by Rick Billstein, Shlomo Libeskind, Johnny W. Lott

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation:	NCATE	TEAC ✓	None

Number of elementary teachers produced: 148 (3rd highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

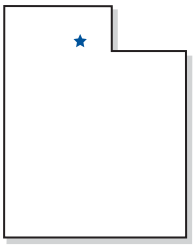
Opportunities for institution to respond: Correspondence on scores on June 26, 2009 and July 21, 2009. Correspondence soliciting comments on August 13, 2009.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Weber State University

Ogden, Utah

Jerry and Vickie Moyes College of Education



I. Admission standards ◔

Comments: The university is not "more" or "most selective" in its admissions. The education school uses the CAAP to screen applicants for academic proficiency, but only "minimum scores" are required.

II. Teacher preparation in reading ◔

Areas of strength: Coursework includes preparation to teach phonics strategies.

Areas of weakness: No evidence that coursework includes preparation to teach phonemic awareness, fluency, vocabulary, and/or comprehension strategies.

Remedy: Provide training in all five components of effective reading instruction.

Textbooks: *Literacy: Helping Children Construct Meaning* (7th ed) by J. David Cooper and Nancy D. Kiger; *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (4th ed) by Donald R. Bear, et al.

Comments: Although phonics is closely associated with the science of reading, a program that addresses that component without the other four is unlikely to appropriately address current research on good phonics instruction and other aspects of effective early reading instruction.

III. Teacher preparation in mathematics ◕

Areas of strength: Textbook

Areas of weakness: Coursework lacks depth.

Remedy: Additional coursework.

Textbooks: *A Problem-Solving Approach to Mathematics for Elementary School Teachers* (9th ed) by Rick Billstein, Shlomo Libeskind, Johnny W. Lott

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation: **NCATE ✓** **TEAC** **None**

Number of elementary teachers produced: 68 (5th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

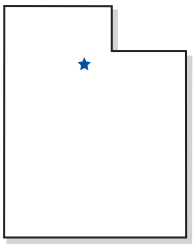
Opportunities for institution to respond: Correspondence: April 8, 2009; July 21, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Western Governors University

Salt Lake City, Utah

Teachers College



I. Admission standards ◔

Comments: The university is not selective in its undergraduate admissions. The education school screens applicants for academic proficiency using the Praxis I with a minimum level set around the 50th percentile of the nation's applicants to teacher preparation programs.

II. Teacher preparation in reading ●

Areas of strength: Coverage of all components of the science of reading.
Textbooks: *Creating Literacy Instruction for All Students* (7th ed) by Thomas G. Gunning
Comments: Not only does this program rigorously cover the science of reading, but effective early reading instruction is integrated into all reading and language arts courses.

III. Teacher preparation in mathematics ●

Areas of strength: Coverage of essential topics with adequate depth; textbook.
Areas of weakness: Algebra instruction could be strengthened. This rating is for preparation for instruction in grades 1-6. The program advertises itself as preparing students to teach elementary school, but offers certification for grades 1-8 and content preparation is inadequate for instruction in grades 7 and 8.
Remedy: Increased focus on algebra.
Textbooks: *A Problem-Solving Approach to Mathematics for Elementary School Teachers* (9th ed) by Rick Billstein, Shlomo Libeskind, Johnny W. Lott
Comments: Elementary mathematics methods receive inadequate attention in the one methods course that covers both mathematics and science methods at the elementary and middle school levels.

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Accreditation: **NCATE ✓** **TEAC ✓** (Candidate) **None**

Number of elementary teachers produced: 20 (8th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

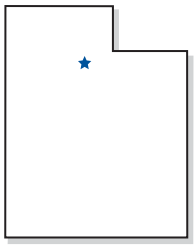
Opportunities for institution to respond: Correspondence: April 8, 2009; July 29, 2009; August 13, 2009

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard
○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

Westminster College

Salt Lake City, Utah

School of Education



I. Admission standards ●

Comments: Rating is based on "more selective" college admissions. Education school candidates are not screened using any standardized assessment of academic proficiency.

II. Teacher preparation in reading ◔

Areas of strength: Coursework includes preparation to teach comprehension strategies.

Areas of weakness: No evidence that coursework includes preparation to teach phonemic awareness, phonics fluency and vocabulary strategies.

Remedy: Provide training in all five components of effective reading instruction.

Textbooks: *Apprenticeship in Literacy: Transitions Across Reading and Writing* by Linda J. Dorn, et al. *Concepts About Print: What Have Children Learned About the Way We Print Language?* by Marie M. Clay; *Literature Circles: Voice and Choice in Book Clubs and Reading Groups* (2nd ed) by Harvey Daniels; *Mosaic of Thought: Teaching Comprehension in a Reader's Workshop* (1st ed) by Ellin Oliver Keene and Susan Zimmermann; *Reading for Life: The Learner As Reader* by the New Zealand Ministry of Education; *Strategies That Work: Teaching Comprehension for Understanding and Engagement* (2nd ed) by Stephanie Harvey and Anne Goudvis

Comments: Program requirements offer candidates a choice between the course "Diagnosis of Reading Difficulties" and the course "Literature-Based Reading Instruction." Making preparation to teach students with reading difficulties optional is a serious flaw in this program. All elementary teachers must be prepared to teach students with reading difficulties.

The ratings for this program are based on course requirements for the 2008-2009 school year. Planned changes to this program, scheduled to take affect in fall 2009, may alter the program's rating.

III. Teacher preparation in mathematics ◑

Areas of weakness: Coursework lacks depth and does not cover essential topics; textbook.

Remedy: Additional coursework with better focus and textbooks.

Textbooks: *Mathematics for Elementary School Teachers* (4th ed) by Tom Bassarear

Comments: Elementary mathematics methods receive inadequate attention in a course that covers methods at both the elementary and middle school level.

Ratings: ● Meets standard ◕ Nearly meets standard ◑ Partly meets standard ◔ Meets a small part of standard ○ Fails to meet standard **?** Cannot be determined **NA** Not applicable

IV. Exit standards ○

Comments: The inadequacy of the Praxis II (which serves as Utah's licensing test) means that the teacher preparation program does not verify that teacher candidates know content at a depth adequate for instruction.

Accreditation: **NCATE** **TEAC ✓** **None**

Number of elementary teachers produced: 11 (9th highest in state)
Data are from 2007-08, the most recent available from the National Center for Education Statistics.

Opportunities for institution to respond: Correspondence: April 8, 2009; July 21, 2009; August 13, 2009

APPENDIX A: RATINGS FOR REQUIRED TEXTS — READING

Author	Title	Number of courses in which text is read	Rating
Baer, G. Thomas	*Self-Paced Phonics: A Text for Educators (3rd ed)*	2	Acceptable supplemental
Bear, Donald R.; Invernizzi, Marcia; Templeton, Shane; Johnston, Francine	*Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction (3rd ed)*	1	Acceptable supplemental
Bear, Donald R.; Invernizzi, Marcia; Templeton, Shane; Johnston, Francine	*Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction (4th ed)*	3	Acceptable supplemental
Beck, Isabel L.; McKeown, Margaret G.; Kucan, Linda	*Bringing Words to Life: Robust Vocabulary Instruction*	1	Acceptable supplemental
Block, Cathy Collins	*Literacy Difficulties: Diagnosis and Instruction for Reading Specialists and Classroom Teachers (2nd ed)*	1	Not acceptable supplemental
Cecil, Nancy Lee	*Activities for a Comprehensive Approach to Literacy*	1	Not acceptable supplemental
Cecil, Nancy Lee	*Striking a Balance: Best Practices for Early Literacy (3rd ed)*	1	Acceptable supplemental
Chapin, June R.	*Elementary Social Studies: A Practical Guide (6th ed)*	1	Not relevant
Clay, Marie M.	*Concepts About Print: What Have Children Learned About the Way We Print Language?*	2	Acceptable supplemental
Cooper, J. David; Chard, David J.; Kiger, Nancy D.	*The Struggling Reader: Interventions That Work*	1	Acceptable supplemental
Cooper, J. David; Kiger, Nancy D.	*Literacy: Helping Children Construct Meaning (7th ed)*	2	Not acceptable core
Daniels, Harvey	*Literature Circles: Voice and Choice in Book Clubs and Reading Groups (2nd ed)*	1	Not acceptable supplemental
Dorn, Linda J.; French, Cathy; Jones, Tammy	*Apprenticeship in Literacy: Transitions Across Reading and Writing*	1	Acceptable supplemental
Dow, Roger S.; Baer, G. Thomas	*Self-Paced Phonics: A Text for Educators (4th ed)*	1	Not acceptable supplemental
Finegan, Edward	*Language: Its Structure and Use (5th ed)*	1	Not relevant
Graves, Michael F.; Juel, Connie; Graves, Bonnie B.	*Teaching Reading in the 21st Century (4th ed)*	1	Acceptable core
Gunning, Thomas G.	*Creating Literacy Instruction for All Students (6th ed)*	2	Acceptable core
Gunning, Thomas G.	*Creating Literacy Instruction for All Students (7th ed)*	3	Acceptable core
Harvey, Stephanie; Goudvis, Anne	*Strategies That Work: Teaching Comprehension for Understanding and Engagement (2nd ed)*	1	Acceptable supplemental

Author	Title	Number of courses in which text is read	Rating
Honig, Bill; Diamond, Linda; Gutlohn, Linda; Mahler, Jacalyn	*Teaching Reading Sourcebook: Sourcebook for Kindergarten Through Eight Grade (1st ed)*	1	Acceptable core
Horn, Martha; Giacobbe, Mary Ellen	*Talking, Drawing, Writing: Lessons for Our Youngest Writers*	1	Not relevant
Justice, Paul W.	*Relevant Linguistics: An Introduction to the Structure and Use of English for Teachers (2nd edition, revised and expanded)*	1	Not relevant
Keene, Ellin Oliver; Zimmermann, Susan	*Mosaic of Thought: Teaching Comprehension in a Reader's Workshop (1st ed)*	1	Not acceptable core
Kiefer, Barbara, Hepler, Susan; Hickman, Janet (Eds)	*Charlotte Huck's Children's Literature (9th ed)*	1	Not relevant
Leslie, Lauren; Caldwell, JoAnne	*Qualitative Reading Inventory - 4 (4th ed)*	2	Acceptable supplemental
Lynch-Brown, Carol; Tomlinson, Carl M.	*Essentials of Children's Literature (6th ed)*	1	Not relevant
New Zealand Ministry of Education	*Reading for Life: The Learner As Reader*	1	Not acceptable supplemental
National Reading Panel	*Put Reading First: The Research Building Blocks for Teaching Children to Read*	2	Acceptable supplemental
Reutzel, D. Ray; Cooter, Robert B.	*Teaching Children to Read: The Teacher Makes the Difference (5th ed)*	1	Not acceptable supplemental
Slavin, Robert E.	*Educational Psychology: Theory and Practice (9th ed)*	3	Not relevant
Smith, John A.; Read, Sylvia	*Early Literacy Instruction: A Comprehensive Framework for Teaching Reading and Writing, K-3 (1st ed)*	1	Not acceptable supplemental
Soderman, Anne K.; Gregory, Kara M.; McCarty, Louise T.	*Scaffolding Emergent Literacy: A Child-Centered Approach for Preschool Through Grade 5 (2nd ed)*	1	Not acceptable core
Spandel, Vicki	*Creating Young Writers: Using the Six Traits to Enrich Writing Process in Primary Classrooms (1st ed)*	1	Not relevant
Tompkins, Gail E.	*Language Arts: Content and Teaching Strategies (5th ed)*	1	Not acceptable core
Tompkins, Gail E.	*Language Arts Essentials*	1	Not relevant
Tompkins, Gail E.	*Literacy for the 21st Century: A Balanced Approach (3rd ed)*	2	Not acceptable core
Tompkins, Gail E.	*Literacy for the 21st Century: A Balanced Approach (4th ed)*	3	Not acceptable core
Turner, Thomas N.	*Essentials of Elementary Social Studies (3rd ed)*	1	Not relevant
Vaughn, Sharon; Linan-Thompson, Sylvia	*Research-Based Methods of Reading Instruction: Grades K – 3*	1	Acceptable supplemental

Author(s)	Title	Number of courses in which text is read	Rating
Wilhelm, Jeffrey D.	*Action Strategies for Deepening Comprehension: Role Plays, Text Structure Tableaux, Talking Statues, and Other Enrichment Techniques That Engage Students with Text*	1	Acceptable supplemental
Woolfolk, Anita	*Educational Psychology (10th ed)*	1	Not relevant
Zaner Bloser	*Self Instruction in Handwriting: For Students or Adults to Improve Handwriting*	1	Not relevant

OTHER ACCEPTABLE CORE TEXTS USED IN OTHER STATES

Author(s)	Title
Birsh, Judith R.	*Multisensory Teaching of Basic Language Skills (2nd ed)**
Carnine, Douglas W.; Silbert, Jerry; Kame'enui, Edward J.; Tarver, Sara G.; Jungjohann, Kathleen	*Teaching Struggling and At-Risk Readers: A Direct Instruction Approach**
Cooper, J. David; Kiger, Nancy D.	*Literacy Assessment: Helping Teachers Plan Instruction (3rd ed)*
Gillet, Jean Wallace; Temple, Charles; Crawford, Alan	*Understanding Reading Problems: Assessment and Instruction (7th ed)*
Gunning, Thomas G.	*Assessing and Correcting Reading and Writing Difficulties (3rd ed)*
Shanker, James L.; Ekwall, Eldon E.	*Locating and Correcting Reading Difficulties (9th ed)*

Books marked with an asterisk (*) are core textbooks that have been used in reviewed special education courses only.

APPENDIX B: RATINGS FOR REQUIRED TEXTS — ELEMENTARY CONTENT MATHEMATICS

TEXTBOOK SCORES

THE FOLLOWING TABLE SUMMARIZES THE SCORES OF ALL TEXTBOOKS USED IN UTAH'S UNDERGRADUATE TEACHER PREPARATION PROGRAMS. THE TWO LAST LINES (HIGHLIGHTED) OF THE TABLE SHOW THE RATINGS OF TWO RECOMMENDED TEXTBOOKS THAT ARE NOT USED IN THE STATE.

AUTHOR AND TEXTBOOK	NUMBERS & OPERATIONS (54 POINTS POSSIBLE)	ALGEBRA (39 POINTS POSSIBLE)	GEOMETRY (54 POINTS POSSIBLE)	DATA ANALYSIS & PROBABILITY (19 POINTS POSSIBLE)	TOTAL SCORE (166 POINTS POSSIBLE)
Bassarear *MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS*	**21 (deficient)**[1]	**3 (deficient)**[1]	**33**	**19**	**76**
Billstein, Libeskind, Lott *A PROBLEM SOLVING APPROACH TO MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS*	**35**	**38**[1]	**50**	**19**	**142**
Musser, Burger, Peterson *MATHEMATICS FOR ELEMENTARY TEACHERS: A CONTEMPORARY APPROACH*	**45**	**16 (deficient)**	**45**	**19**	**125**
Beckmann *MATHEMATICS FOR ELEMENTARY TEACHERS*	**54**[1]	**29**	**48**	**19**	**150**
Parker, Baldridge *ELEMENTARY MATHEMATICS FOR TEACHERS* AND *ELEMENTARY GEOMETRY FOR TEACHERS*	**54**[1]	**24**	**54**	**19**	**151**

1 Appendix D of our national report on mathematics preparation comments extensively on the indicated section of this textbook.

APPENDIX C: COMMENTS FROM UTAH TEACHER PREPARATION PROGRAMS

WE SOLICITED COMMENTS FROM ALL NINE PREPARATION PROGRAMS EVALUATED IN THIS STUDY. THREE PROGRAMS RESPONDED AND THEIR COMMENTS ARE FOUND BELOW:

BRIGHAM YOUNG UNIVERSITY

Brigham Young University welcomes thorough reviews of our programs. We invite NCTQ to visit our campus to review the BYU Teacher Education Program, which is currently accredited by NCATE and TEAC, approved accrediting agents by the US Department of Education. NCATE and TEAC rely on course descriptions, faculty qualifications, and student outcomes to assess the quality of education programs.

Data supporting our current accreditation include coursework, qualified instructors, and national test scores:

- All candidates complete College Algebra before being admitted into our program.
- The Math Ed 305/306 classes are taught by mathematics education faculty or graduate students who are carefully mentored.
- The materials used in our math education courses are developed by well published Mathematics Educators (former editors of JRME) including Mathematics for Elementary Teachers - A Contemporary Approach by Musser, Burger and Peterson published by John Wiley & Sons. The materials are conceptually deep. The curriculum in the texts covers all important and expected pieces of content.
- Data from the past two years indicate that 94% of our Early Childhood Education candidates and 98% of our Elementary Education candidates have passed the Praxis II Test, a standard used by accreditation agency to measure competent teachers.

DIXIE STATE COLLEGE

The Dixie State College of Utah teacher preparation program for elementary education has seen great success in its short history. The program was created with a strong partnership with the local school district and benefits from many opportunities for the teacher candidates to spend time in classrooms. Our teacher candidates are highly recruited, especially in the Southern Utah area. Over the 6 years of the program, we have continually evaluated our students' performance, as well as the program itself, and have made changes as needed. That is a continual process.

In regards to our literacy preparation, we are already covering the major areas of literacy, phonics, phonemic awareness, comprehension, vocabulary, and fluency, along with significant attention to content area literacy, writing, spelling, and other aspects of literacy. Last year, we added an additional course giving us four literacy courses that provide more depth to our instruction. The four courses are Literacy Acquisition of Young Children, Literacy in the Intermediate Grades, Teaching the Language Arts, and Methods, Strategies, and Materials for Language Arts - ESL. Most of these courses include a weekly practicum in the schools to help the teacher candidates practice what they are learning. We feel confident our teacher candidates are receiving solid preparation in the instruction of literacy.

WESTERN GOVERNORS UNIVERSITY

Western Governors University (WGU) is the only completely online, fully competency-based university in the United States. As such, WGU awards degrees based upon candidates' demonstration of mastery of the competencies associated with each domain of study in each degree program. All competencies for programs in the Teachers College are derived from national and state standards. As a result, the WGU Teachers College is a truly national teachers college. For the Mathematics and Reading portions of our teacher preparation programs, the competencies are based on the NCTM, ACEI, NAEYC, and various state standards for these areas of the curriculum.

For each domain of study, in this case Mathematics and Reading, competency units (CUs) are assigned to each significant sub-area of these curricula. CUs are computed based upon the breadth and depth of the competencies; thus, competencies that are linked to material that is at a high cognitive level and require significant critical thinking and reflection will yield higher CUs than will material that is more basic to the domain of study. All WGU Mathematics and Reading programs are nationally recognized by the appropriate SPAs and the WGU Teachers College is NCATE accredited at both the initial and advanced levels.

This report is available online from www.nctq.org

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