



Preparing Tomorrow's Teachers:

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

September 2009

AUTHORED BY:

Julie Greenberg and Sandi Jacobs

OUR THANKS TO:

Research Analyst: Alicia Durfee

Database Design and Technical Support: Jeff Hale

Graphic Design: Colleen Hale

WITH PRINCIPAL FUNDING FROM:

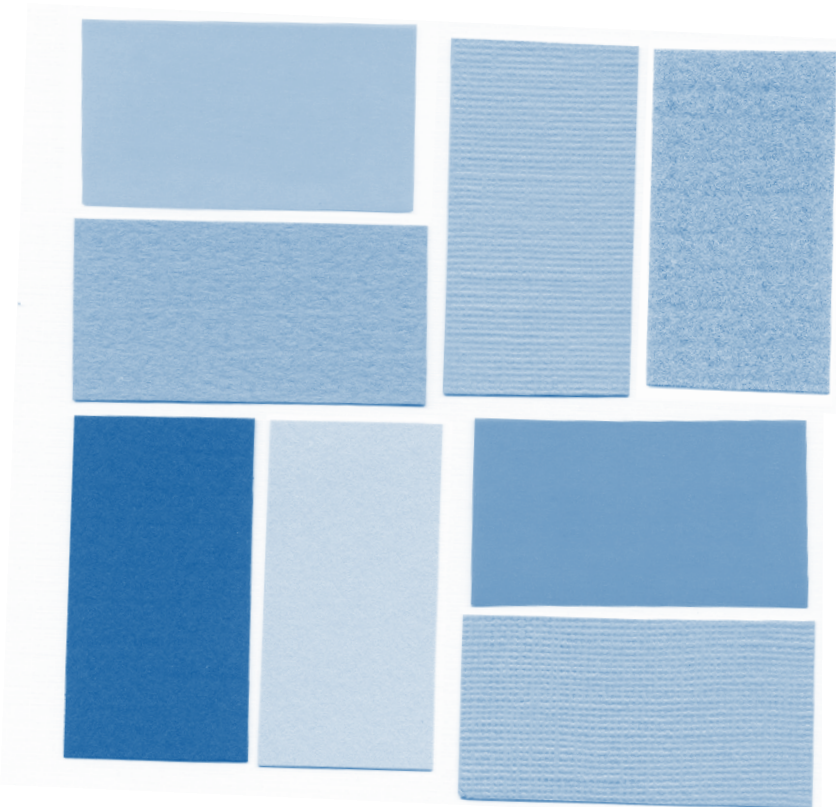
Daniels Fund

NCTQ BOARD OF DIRECTORS:

Stacey Boyd, Chester E. Finn, Ira Fishman, Marti Watson Garlett, Jason Kamras, Donald N. Langenberg, Clara M. Lovett, Carol G. Peck, Danielle Wilcox, Kate Walsh, *President*

NCTQ ADVISORY BOARD:

Steven J. Adamowski, Michael Barber, Roy E. Barnes, Lawrence S. Braden, Cynthia G. Brown, Andrew Chen, Jo Lynne DeMary, Paula S. Dominguez, Cheryl Ellis, Michael Feinberg, Eleanor Gaines, Michael Goldstein, Eric A. Hanusek, Frederick M. Hess, Paul T. Hill, E.D. Hirsch, Michael Johnston, Frank Keating, Martin J. Koldyke, Wendy Kopp, Amy Jo Leonard, Deborah McGriff, Ellen Moir, Robert H. Pasternak, Michael Podgursky, Michelle Rhee, Stefanie Sanford, Laura Schwedes, Daniel Willingham



INTRODUCTION

IMPROVING TEACHER EFFECTIVENESS IS HIGH ON THE LIST OF MOST EDUCATION REFORMERS IN WYOMING, 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 preparation 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 both rated the University of Wyoming, the state's only teacher preparation program, and provide the methodological foundations for this updated analysis of teacher preparation at the university.

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 WYOMING

EACH YEAR APPROXIMATELY 130 WOMEN AND MEN GRADUATE FROM THE UNIVERSITY OF WYOMING WITH CERTIFICATION TO TEACH ELEMENTARY SCHOOL.³ WYOMING'S SOLE PREPARATORY PROGRAM IS REGULATED BY THE STATE'S PROFESSIONAL TEACHING STANDARDS BOARD. THIS BOARD MUST "APPROVE" THE UNIVERSITY'S PROGRAM, DETERMINING IF IT PROVIDES A SUFFICIENTLY RIGOROUS CURRICULUM TO CONFER A WYOMING STATE TEACHING LICENSE ON ANYONE WHO SUCCESSFULLY COMPLETES THE COURSE OF STUDIES.

In our 2007 *State Teacher Policy Yearbook*, NCTQ found Wyoming's policies related to teacher preparation and licensure in need of serious improvement⁴ and uniformly rated the ones relevant to elementary teacher preparation as failing to meet standards. 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:

- Wyoming 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.
- The state neither monitors nor caps the amount of professional coursework that programs can require. Elementary teacher candidates are required to take 63 credit hours in education, slightly more than two full majors.
- The state does not collect objective, measurable data to determine if a program is deserving of state approval.

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 the University of Wyoming filling any vacuum left by the state.

³ Western Governors University and the University of Phoenix offer online teacher preparation in Wyoming, but are not headquartered in the state and are therefore not included in this study.

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

SCOPE OF THIS ANALYSIS

WE EVALUATED WYOMING'S UNDERGRADUATE ELEMENTARY TEACHER PREPARATION PROGRAM 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 Wyoming, 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.⁵

Wyoming 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.⁶

In rating admission standards at the University of Wyoming, we evaluate whether the program limits admissions to candidates in the top half of high school students going to college. 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.⁷ Because the University of Wyoming is rated by *U.S. News and World Report* as only "selective" in its admissions, the teacher preparation program should utilize an admissions test to screen applicants to ensure that they are in the upper half of high school graduates going to college.⁸

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

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

7 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.

8 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 at the university had scores on the SAT Critical Reading and Math tests that added to a sum between 980 and 1240, meaning that a substantial number of the campus' students had score sums below the nation's average SAT score sum in 2008 of 1017.

METHODOLOGY: STANDARDS FOR TEACHER PREPARATION IN READING

Student reading achievement in Wyoming remains a chronic problem, one that is unfortunately shared throughout the country. On the most recent NAEP (National Assessment of Educational Progress) assessments, 64 percent of Wyoming's fourth graders and 67 percent of Wyoming eighth graders read below the proficient level.⁹ 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 led 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 Wyoming's teacher preparation program on reading preparation uses the same methodology employed in our national study. The program is 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 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 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. The University of Wyoming did so.

Reviews of both the reading textbooks used in Wyoming and the recommended textbooks not used in the state can be found in the appendix following the program rating page. Our national study contains more information on the science of reading and the methodology used in evaluating reading preparation.¹⁰

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 Wyoming's students in mathematics is only slightly better than mediocre. On the most recent NAEP, 56 percent of Utah fourth graders and 64 percent of Utah eighth graders had mathematics scores below the proficient

9 Although Wyoming's scores are above the national averages, these numbers track closely to the national averages. See <http://www.nces.ed.gov/nationsreportcard/states/profile.asp>.

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

level.¹¹ Since mathematics knowledge is cumulative, a critical step in improving this performance is the foundation laid in 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 and mathematicians recommend that aspiring elementary teachers take three semester courses in “elementary mathematics content.”¹² 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 the University of Wyoming's teacher preparation program on mathematics preparation is based on examination of syllabi and required primary textbooks in coursework designed for teacher audiences. (The university will be offering a new mathematics preparation program in fall 2009 and it is this new program that we evaluated.) These materials are 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: 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.

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 reviews with any additional materials had the University of Wyoming provided them to us when it provided us syllabi for new coursework in response to our solicitation. Again, as in the case of our reading analysis, our evaluations in mathematics preparation were generous, always giving the program the benefit of the doubt if we encountered any ambiguity.

Reviews of both the elementary content mathematics textbooks used in Wyoming and recommended textbooks not used in the state can be found in the appendix. 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.¹³

11 Although Wyoming's scores are above the national averages, these numbers track closely to the national averages. See <http://www.nces.ed.gov/nationsreportcard/states/profile.asp>.

12 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.

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

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, 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.

Wyoming requires that all aspiring elementary teachers pass the Praxis II Elementary Education: Curriculum, Instruction, and Assessment test to receive a license. There are no requirements that elementary teacher candidates pass a content test. While the licensing test that is most commonly used to assess content knowledge – the Praxis II Elementary Education: Content Knowledge – is fatally flawed, Wyoming should adopt some form of licensure test.¹⁴

While no state has developed rigorous licensing tests with separate passing scores for every subject taught in elementary school, a few states have made progress on the important subjects of reading and mathematics. Wyoming should look to Massachusetts and Virginia for examples of adequate licensing tests. Both states have rigorous, stand-alone tests of reading pedagogy. Massachusetts has also developed a rigorous, stand-alone mathematics test.¹⁵

In the absence of an adequate state licensing test, it is incumbent upon the College of Education to use its own series of exit tests to verify that graduates meet acceptable levels of performance.

OTHER DATA REPORTED

The University of Wyoming's College of Education is accredited by National Council for Accreditation of Teacher Education (NCATE). This indication 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.

The rating sheet also identifies the three opportunities we afforded the university to provide us with comments or additional course materials relevant to our evaluation.

The first letter asked that the College of Education confirm that we had correctly identified the proper reading and mathematics coursework for our analyses. It did so.

¹⁴ The structure and scoring of the Praxis II lead us to state that it is fundamentally flawed. A candidate's Praxis II score represents a composite of his or her performance in four different areas (reading/language arts, 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 deemed most tests in this series inadequate for assessing knowledge of scientifically based reading instruction.

¹⁵ <http://www.doe.mass.edu/news/news.asp?id=3801>

In a later mailing, we sent the College the preliminary results of our analyses in reading and mathematics preparation. It was asked to provide any additional materials that might lead us to alter our rating. As already noted, it did so in the area of reading preparation.

Our last letter solicited a general comment of any kind. No comment was provided to us.

FINDINGS ABOUT THE UNIVERSITY OF WYOMING'S COLLEGE OF EDUCATION

- THE COLLEGE DOES NOT SCREEN APPLICANTS TO ENSURE THAT TEACHER CANDIDATES ARE ACADEMICALLY PROFICIENT.
- THE COLLEGE DOES NOT PREPARE CANDIDATES TO TEACH THE SCIENCE OF READING. COURSEWORK ONLY INCLUDES EXPOSURE TO TWO OF THE FIVE COMPONENTS OF EFFECTIVE READING INSTRUCTION. FURTHER, ALTHOUGH THE PROGRAM USES BETTER TEXTBOOKS THAN IS COMMON THROUGHOUT THE COUNTRY, THE TEXTS DO NOT COVER ALL OF THE COMPONENTS.
- THE COLLEGE HAS IMPROVED ITS MATHEMATICS PREPARATION PROGRAM SINCE WE RATED IT IN OUR NATIONAL STUDY (JUNE 2008) AND NOW SATISFACTORILY PROVIDES THE MATHEMATICS CONTENT PREPARATION THAT ELEMENTARY TEACHERS NEED, ALTHOUGH TEXTBOOKS COULD STILL BE IMPROVED.
- THE COLLEGE DOES NOT ENSURE THAT ASPIRING ELEMENTARY TEACHERS KNOW THE SCIENCE OF READING INSTRUCTION AND UNDERSTAND ELEMENTARY MATHEMATICS CONTENT AT A DEPTH THAT IS SUFFICIENT FOR INSTRUCTION.

RECOMMENDATIONS

IT FALLS TO THE **PROFESSIONAL TEACHING STANDARDS BOARD (PTSB)** TO SPEARHEAD IMPROVEMENT OF THE STATE'S EDUCATION PROGRAM BY BETTER EXERCISING THE OVERSIGHT AUTHORITY THAT IT ALREADY HOLDS.

THE PTSB SHOULD ESTABLISH ENTRANCE STANDARDS FOR THE STATE'S TEACHER PREPARATION PROGRAM TO ENSURE THAT EVERY ASPIRING TEACHER ENTERS COLLEGE 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.¹⁶

The fact that a large and increasing number of teacher candidates applying for admission to the state's teacher preparation program may be transferring from two-year institutions underscores the need to establish a uniform threshold for admission.

¹⁶ 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.

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, increasingly entering teaching through alternate 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 PTSB SHOULD DEVELOP STRONG COURSE STANDARDS IN READING AND MATHEMATICS AND ADOPT WHOLLY NEW ASSESSMENTS TO TEST FOR THOSE STANDARDS.

Wyoming's coursework standards are too ambiguous, offering almost no guidance regarding the knowledge that elementary teacher candidates need to acquire. Only a combination of standards and coursework requirements ensures that the College of Education will not decide independently what should be taught. But absent a test, even this combination provides no assurance that the education school is 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, Wyoming 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 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.¹⁷

Although Wyoming's mathematics preparation is improved, it should look to Massachusetts as a model for developing a regulatory framework that would further strengthen mathematics preparation. Our national study of the preparation of elementary teachers in mathematics discusses Massachusetts' regulations and assessment in some detail.¹⁸

THE COLLEGE OF EDUCATION SHOULD TAKE THE FOLLOWING STEPS:

TO IMPROVE READING 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, the education school must have the expertise to deliver scientifically based reading coursework.

TO IMPROVE MATHEMATICS PREPARATION

1. Ensure that every elementary mathematics content course is supported by the best possible textbook.

¹⁷ 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).

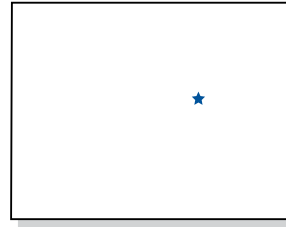
¹⁸ See p. 54 of the report at http://www.nctq.org/p/publications/docs/nctq_ttmath_fullreport_20090603062928.pdf

-
- | | |
|---|--|
| <p>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.</p> | <p>2. 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.</p> |
| <p>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.</p> | <p>3. While the algebra preparation provided to prospective elementary teachers is stronger than in most programs, it could be given even higher priority in elementary content instruction.¹⁹</p> |
-

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

By itself, leadership from the College of Education is not sufficient to improve instruction in the content courses that elementary teachers need in mathematics. The Department of Mathematics 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.

¹⁹ 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.



I. Admission standards ○

Comments: This college is not “more selective” or “most selective” in its undergraduate admissions, nor are education majors screened using any standardized assessment of academic proficiency.

II. Teacher preparation in reading ◐

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

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

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

Textbooks: *Early Childhood Language Arts* (4th ed) by Mary R. Jalongo; *The Fluent Reader: Oral Reading Strategies for Building Word Recognition, Fluency, and Comprehension* by Timothy V. Rasinski; *Strategies That Work: Teaching Comprehension to Enhance Understanding* (1st ed) by Stephanie Harvey and Anne Goudvis; *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction* (4th ed) by Donald R. Bear, et al. *Zaner-Bloser Handwriting Course* by Clinton S. Hackney

Comments: This teacher preparation program was previously reviewed in NCTQ’s 2006 national reading study. Its score has decreased, with the program previously covering four of the five components of the science of reading.

III. Teacher preparation in mathematics ●

Areas of strength: Coverage of essential topics with adequate depth; concurrent registration in content courses and methods seminars.

Areas of weakness: Use of Sowder textbook in two courses.

Remedy: Substitute a stronger textbook.

Textbooks: *Mathematics for Elementary Teachers* (2nd ed) by Sybilla Beckmann; *Reconceptualizing Mathematics* (preliminary edition) by Judy Sowder, Larry Sowder, Susan Nickerson

Comments: We recommended in *No Common Denominator*, our 2008 national study of the preparation of elementary teachers, that this program should require more coursework. It now does so and has also improved the quality of coursework.

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 Wyoming'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: 131

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; August 4, 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

APPENDIX: RATING OF READING AND ELEMENTARY CONTENT MATHEMATICS TEXTBOOKS

READING TEXTBOOK SCORES

THE FOLLOWING TABLE SUMMARIZES THE SCORES OF THE SIX TEXTBOOKS USED IN THE UNIVERSITY OF WYOMING'S UNDERGRADUATE TEACHER PREPARATION PROGRAM. HIGHLIGHTED LINES SHOW RATINGS FOR RECOMMENDED TEXTBOOKS THAT ARE NOT USED IN THE STATE.

AUTHOR	TITLE	RATING
Bear, Donald R.; Invernizzi, Marcia; Templeton, Shane; Johnston, Francine	<i>Words Their Way: Word Study for Phonics, Vocabulary, and Spelling Instruction (4th ed)</i>	Acceptable supplemental
Culham, Ruth	<i>6+1 Traits of Writing: The Complete Guide Grades 5 and Up</i>	Not relevant
Hackney, Clinton S.	<i>Zaner-Bloser Handwriting Course</i>	Not relevant
Harvey, Stephanie; Goudvis, Anne	<i>Strategies That Work: Teaching Comprehension to Enhance Understanding (1st ed)</i>	Acceptable supplemental
Jalongo, Mary R.	<i>Early Childhood Language Arts (4th ed)</i>	Not acceptable supplemental
Rasinski, Timothy V.	<i>The Fluent Reader: Oral Reading Strategies for Building Word Recognition, Fluency, and Comprehension</i>	Acceptable supplemental
Birsh, Judith R.	<i>Multisensory Teaching of Basic Language Skills (2nd ed)</i> ¹	Acceptable core
Carnine, Douglas W.; Silbert, Jerry; Kame'enui, Edward J.; Tarver, Sara G.; Jungjohann, Kathleen	<i>Teaching Struggling and At-Risk Readers: A Direct Instruction Approach</i> ¹	Acceptable core
Cooper, J. David; Kiger, Nancy D.	<i>Literacy Assessment: Helping Teachers Plan Instruction (3rd ed)</i>	Acceptable core
Gillet, Jean Wallace; Temple, Charles; Crawford, Alan	<i>Understanding Reading Problems: Assessment and Instruction (7th ed)</i>	Acceptable core
Graves, Michael F.; Juel, Connie; Graves, Bonnie B.	<i>Teaching Reading in the 21st Century (4th ed)</i>	Acceptable core
Gunning, Thomas G.	<i>Assessing and Correcting Reading and Writing Difficulties (5rd ed)</i>	Acceptable core
Gunning, Thomas G.	<i>Creating Literacy Instruction for All Students (6th ed, 7th ed)</i>	Acceptable core

¹ This core textbook has been used in reviewed special education courses only.

ELEMENTARY CONTENT MATHEMATICS TEXTBOOK SCORES

THE FOLLOWING TABLE SUMMARIZES THE SCORES OF BOTH TEXTBOOKS USED IN THE UNIVERSITY OF WYOMING'S UNDERGRADUATE TEACHER PREPARATION PROGRAM. 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)
Beckmann <i>MATHEMATICS FOR ELEMENTARY TEACHERS</i>	54 ²	29	48	19	150
Sowder, Sowder, Nickerson <i>RECONCEPTUALIZING MATHEMATICS</i>	23 (deficient)	9 (deficient)	30 (deficient)	19	81
Billstein, Libeskind, Lott <i>A PROBLEM SOLVING APPROACH TO MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS</i>	35	38 ²	50	19	142
Parker, Baldrige <i>ELEMENTARY MATHEMATICS FOR TEACHERS AND ELEMENTARY GEOMETRY FOR TEACHERS</i>	54 ²	24	54 ²	19	151

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

This report is available online from www.nctq.org



NATIONAL COUNCIL ON TEACHER QUALITY

1420 New York Avenue, Suite 800

Washington, D.C. 20005

Tel: 202 393-0020 Fax: 202 478-0838 Web: www.nctq.org

The National Council on Teacher Quality advocates for reforms in a broad range of teacher policies at the federal, state and local levels in order to increase the number of effective teachers.

Subscribe to NCTQ's free monthly electronic newsletter, Teacher Quality Bulletin, (www.nctq.org/pltqb/subscribe.jsp), to stay abreast of trends in federal, state, and local teacher policies and the events that help to shape them.

