Will State Regulation of Teacher Education Diminish Program Diversity?

An Examination of Three Virginia Universities

Daniel L. Duke, Pamela D. Tucker,
Scott Bucko, Gena Duffey, and Melissa McBride

Growing regulation of teacher preparation programs has raised concerns about standardization in the field of teacher education. With greater uniformity, is there a loss of innovation and program identity? To gather information on this question, we examined teacher preparation programs in Elementary Education, Secondary English, Secondary Mathematics and Special Education at three Virginia institutions of higher education: the College of William and Mary, James Madison University, and the University of Virginia. Multiple data sources were used to collect information about program policies and practices, including program documents, interviews and focus groups. Interviews and focus groups were used to verify the accuracy and importance of the written documentation in each program. The findings of our review substantiate continued program and institutional variations in numerous areas despite the establishment of specific standards for preparation programs at the state level. Variations exist in areas such as length of program, types of required practicum experiences, number of required credits in professional education, number of credits/hours required for student teaching, number of required credits in major field of study, and nature of student teaching placement(s). Future research is needed to determine whether the areas of identified program variations help to account for differences in teacher effectiveness and ultimately the achievement of those they instruct.

Will State Regulation of Teacher Education Diminish Program Diversity?

An Examination of Three Virginia Universities[1]

Daniel L. Duke, Pamela D. Tucker,
Scott Bucko, Gena Duffey, and Melissa McBride

Introduction

The Commonwealth of Virginia, along with other states across the nation, has developed regulations in recent years to ensure that high quality teachers are prepared by colleges and universities. The regulations cover the content to which prospective teachers must be exposed, the competencies that they must demonstrate, and the field experience that they must acquire in order to be credentialed. In addition, guidelines are provided concerning the structure and operation of teacher preparation programs. Teacher educators frequently express the fear that these measures will lead to the standardization of teacher education. Others welcome the prospect of greater uniformity, arguing that the absence of common standards and practices in the past weakened the field of teacher education and diminished it in the eyes of the public (Lagemann, 2004).

While some degree of standardization of teacher education may be justified and desirable, excessive uniformity can pose problems. Porter (1996) has noted that productivity and innovation may fall victim to complacency when organizations in the same line of business do not feel compelled to be different. "A company can outperform rivals," according to Porter, "only if it can establish a difference that it can preserve." He goes on to point out that "difference" may involve "performing <u>different</u> activities from rivals" or "performing similar activities in <u>different</u> ways" (p. 62). All organizations, including institutions of higher education,

[1] This study was supported by a grant from the Teachers for a New Era Program, which in turn was funded by the Carnegie Foundation.

seek a competitive edge. They look for ways to add value to their "products" that their peer organizations cannot match.

The question arises: Are recent regulations regarding teacher education having the effect of standardizing university programs and, thereby, curtailing innovation? To address this question, we examined teacher preparation programs in Elementary Education, Secondary English, Secondary Mathematics, and Special Education at three Virginia institutions -- the College of William and Mary (W&M), James Madison University (JMU), and the University of Virginia (UVA). The goals of our investigation were to collect descriptive information on program policies and practices and determine the extent of commonalities and variations across institutions. It is interesting to note that nine months after we began our study, the United States Congress commissioned a similar investigation of teacher education programs across the nation (Blair, 2004). The primary purpose of the study was to determine the extent to which prospective teachers are subject to common training, regardless of the institution of higher education. When Darling-Hammond (2000) investigated teacher preparation policies across the United States, she found wide variation in the standards to which teacher education programs were held. While between-state variation has been demonstrated, it is less clear whether teacher preparation programs within the same state, and therefore subject to the same state regulations, vary in significant ways.

The study opens with a discussion of why the issue of program uniformity is important to investigate. A brief overview of Virginia's regulations governing teacher education comes next, followed by the design of the study. General profiles of teacher preparation at each of the three institutions comes next, followed by descriptions of Elementary Education, Secondary English, Secondary Mathematics, and Special Education programs. The paper concludes with an analysis

of similarities and differences across programs and institutions and an assessment of the extent to which any revealed differences are likely to provide added value to particular programs and their graduates.

The Impact of State Regulation

Policy makers in recent years have inquired about what value colleges and universities add to the preparation of public school teachers (National Commission on Teaching and America's Future, 2003). Their interest derives from the increasingly acknowledged belief that teachers make the difference when it comes to student achievement. Better teachers produce greater achievement in students. Does teacher education, they ask, have anything to do with the quality of teachers and teaching?

If a particular teacher education program adds value to the quality of teachers and teaching, it can do so in several ways. First, the program can recruit and admit more talented undergraduates than other programs. Second, it can hire and retain more highly qualified faculty than other programs. Third, it can develop more rigorous requirements and policies aimed at quality control. Fourth, it can create more productive learning environments in which individuals prepare to be teachers. These dimensions of teacher education represent the traditional sources of variation across programs and institutions. In other words, teacher education programs can be distinguished by the quality of the students they admit, the quality of the faculty they employ, the nature of their requirements, and the kinds of instruction and experiences they offer.

The effort to regulate teacher education in Virginia, as is seen in the next section, has addressed each of these potential sources of variation. It would appear that policy makers in the Old Dominion desire to reduce variation across programs and institutions, thereby assuring the

public that graduates of all state institutions will provide high quality instruction. The purpose of this study is not to assess the wisdom of the strategy, but to determine the extent to which variations across programs and institutions currently exist. Have teacher educators managed to maintain distinctive elements of their programs in the face of comprehensive state regulations? Or has the impact of state standards been to standardize teacher education? If the latter turns out to be the case, then the primary source of difference between competing teacher education programs may boil down to the quality of the students admitted for undergraduate work. Such a consequence of state regulation could intensify college and university recruitment efforts while discouraging attempts to develop more innovative teacher education programs. On the other hand, if variations across programs and institutions persist, despite state regulatory efforts, it is important to investigate whether these variations are associated with demonstrable differences in teacher performance and, ultimately, student achievement.

Accountability Comes to Virginia

In the mid-1990's, Virginia, like many of her sister states, took significant steps to raise educational standards and promote greater accountability in public schools. The cornerstone of this initiative involved the adoption in June 1995 of new Standards of Learning (SOL) in the core subjects of mathematics, science, English, and (later) social studies. Within three years, Virginia boasted one of the most comprehensive accountability programs in the United States, including high-stakes standardized tests aligned to the SOL, new accreditation standards for public schools, and school performance report cards for the general public (Duke & Reck, 2003). Along with these measures aimed at public schools, Virginia policy makers undertook two additional measures to improve public education. New licensure regulations for teachers and other educational personnel were implemented on July 1, 1998, and new regulations governing

approved programs for institutions of higher education went into effect on July 1, 2001. Both were intended to support the new Standards of Learning.

The regulations governing approved programs included four sections of the Virginia Code (8VAC20-541-20, 30, 40, and 50). Professional education program design was the focus of the first section and included seven standards. The standards concerning teacher education programs specified, among other things, that prospective teachers in all subjects except for health, physical education, and vocational education had to complete an academic degree in the arts and sciences. In other words, it was no longer possible for most elementary and secondary teachers to obtain a license with an undergraduate degree in education. Professional studies course work was limited to 18 semester hours (not counting field experiences) for all candidates except those in elementary and special education, who could take up to 24 semester hours of professional studies.

The regulations went so far as to specify the content that needed to be covered in professional studies courses. This content included child development, language acquisition and reading, educational foundations, contemporary issues in education, school laws, school culture, principles of learning, methods for teaching the content area of choice, classroom management, evaluation of student performance, and uses of educational technology.

All teacher education programs were required to provide "integrated field experiences including pre-observation, student teaching, internships, and other opportunities for prospective teachers to interact with the school environment." A minimum of 300 clock hours of student teaching was prescribed, with at least half that time spent in "direct teaching at the level of endorsement." The first section also required that teacher education programs ground content in

current research; encourage candidates to "reflect, think critically and solve problems;" and promote an understanding of cultural diversity and exceptionalities.

To ensure that teacher candidates are proficient in reading, writing, and mathematics, the regulations required course work that would enable all candidates to pass the Praxis I exam.[2] The regulations also required most candidates to pass the teaching area Praxis II content assessment(s). Special education teachers initially were exempted from this requirement, but eventually they may be required to pass a Praxis II assessment.

The second section of the regulations governing approved programs focused on the candidates seeking licensure. All teacher education programs were required to develop "a comprehensive system to assess the qualifications of candidates seeking admission." This system may include scores on the Praxis I Academic Skills Assessment, faculty recommendations, biographical information, and successful completion of prior college course work with at least a 2.5 grade point average. This section also mandated that teacher education programs systematically monitor and assess the progress of each candidate and provide advisement and assistance when necessary. Teacher education programs were called on to develop "published criteria" by which the competence of candidates for licensure was determined. These exit criteria can include passing scores on the Praxis II, portfolios, interview responses, videotaped and observed performance, and course grades.

The third section covered the faculty of teacher education programs. Individual standards deal with the qualifications of faculty members, including prior experience as teachers, faculty workload, continuing professional development, and regular evaluation of faculty performance. The fourth section of the regulations concerns the "operation and accountability" of teacher

[2] In 2004, prospective teachers were allowed to skip the Praxis I exam if they earned a score of at least 530 on the verbal and mathematics sections of the Scholastic Aptitude Test (SAT) and a combined score of at least 1100.

education programs. Each program, for example, is required to document that at least 70 percent of its admitted candidates annually pass the Praxis II subject area assessment. Furthermore, programs must submit annual reports indicating demographic category (ethnicity, gender, endorsement area, and program level) on licensure assessments. The last standard ensures that teacher education programs have adequate resources to offer quality training to prospective teachers.

The primary goal of teacher education programs is to enable their candidates to become licensed teachers. To eliminate any ambiguity regarding what was needed to obtain a teaching license, Virginia developed very specific regulations governing endorsements in Early/Primary Education, Elementary Education, Middle Education, Special Education, and Secondary (6-12) Education. The regulations cover course work and competencies. Candidates qualifying for endorsement as secondary English teachers, for example, are expected to complete 12 semester hours in literature, including a survey of British literature, a survey of American literature, world literature, and literary theory and criticism; 6 semester hours of language, including the history of the English language and its grammar; 6 semester hours of composition; 3 semester hours of oral language, and 9 semester hours of electives in the preceding content areas. Each successful candidate for endorsement in secondary English must demonstrate competence in the following areas:

1. Understanding of the knowledge, skills, and processes of English as defined in the Virginia Standards of Learning;
2. Skills necessary to teach the writing process and the different forms of writing (creative, expository, persuasive, and technical) and to employ available computer technology;

3. Knowledge of grammar, usage, and mechanics and their integration in writing;
4. Understanding of the theory of linguistics and of the nature and development of language and their impact on vocabulary development and spelling;
5. Knowledge of reading and comprehension skills, including technical reading skills;
6. Knowledge of speaking and listening skills;
7. Knowledge of major works from British, American, world, and ethnic/minority literature appropriate for English instruction; and
8. The ability to provide experiences in communication arts, such as journalism, dramatics, debate, forensics, radio, television, films, and other media.

Virginia has continued to fine tune its regulations governing teacher training and qualifications. As the present study was being completed, the state implemented a requirement that all candidates in Early Childhood Education, Elementary Education, and Special Education pass the new Virginia Reading Assessment, which examines knowledge of literacy and language development.

Given the specificity of these licensure requirements and the regulations governing the approval of teacher education programs in Virginia, it is easy to understand why one might wonder whether there is any room left for variation in the preparation of teachers. Our objective was to determine the extent to which the Commonwealth's new standards had resulted in the standardization of teacher education.

Design of the Study

To determine the extent to which teacher education programs in Virginia share similar characteristics as a result of the adoption of new state regulations and licensure requirements, three higher education institutions were chosen. Each institution -- the College of William and Mary (W&M), James Madison University (JMU), and the University of Virginia (UVA) -- boasts a selective undergraduate admissions policy and a highly regarded teacher education program. All have obtained state and NCATE approval for their programs.

Because each institution offers a variety of specializations within teacher education, the decision was made to focus data collection on four areas -- Elementary Education, Secondary English, Secondary Mathematics, and Special Education. Further focus was provided by limiting the investigation to programs for undergraduates (four-year programs) or Masters students who began their teacher education course work as undergraduates (fifth year programs). Graduate degree programs for individuals already possessing Bachelors degrees and not involved in fifth year programs were excluded from the study.[3]

The strategy for collecting data on each teacher education program was based on the importance of multiple data sources. The researchers were aware of criticism of studies that relied exclusively on a review of course syllabi (Keller, 2003). It cannot be assumed that the contents of course syllabi accurately reflect what is actually covered in courses, content receiving special emphasis, or the full range of student assignments. Our research design relied on triangulation of data sources to establish the trustworthiness of the data. Besides a review of program documents, NCATE reports, and course syllabi, researchers conducted interviews with program directors and selected faculty and focus groups with students. Of specific interest were the following categories of data:

[3] An exception was made for W&M's Master's program in Special Education.

1. General policies applicable to all teacher education candidates;
2. Policies specific to candidates in one subject area;
3. Goals and expectations (both general and specific to one subject area);
4. Program requirements;
5. Learning experiences and activities (class-based);
6. Field experiences;
7. Assignments on which candidates received feedback and/or grades;
8. Access to and use of technology; and
9. Quality control procedures.

Data were collected during the fall and spring semesters of the 2003-2004 academic year. Data compilation and analysis occurred on an ongoing basis. The research team met regularly to review data, identify gaps in knowledge, and pinpoint discrepancies requiring additional investigation. To facilitate cross-program comparisons, tables containing various categories of descriptive data were created. Supervisory personnel at each of the 3 institutions were given an opportunity to review drafts of the report, correct inaccurate information, and add missing information. Discrepancies regarding particular policies and practices that could not be cleared up by additional inquiry were noted. The final step in data analysis involved reviewing the tables containing data for each of the four specialization areas at the three higher education institutions and determining where policies and practices were similar and where they varied.

Profiles of Teacher Education Programs

Before looking at each specialization area, it is useful to review the teacher education programs in general. At each of the three higher education institutions, for example, certain policies, requirements, and procedures applied to all specialization areas. Information also is

included regarding the size of each program and the degree options available to teacher education students.

General program features

Table 1 provides an overview of each teacher preparation program, including its degree options, credit requirements, course requirements in professional education, requirements for the academic major, student teaching specifications, and data on enrolled students and program graduates.

Teacher preparation programs at the three institutions differ in size. William and Mary has the smallest program, with 110 students, while the University of Virginia and James Madison have 400 and 500 students, respectively. Data released by the Virginia Department of Education on program completers for the 2001-2002 academic year indicated that JMU graduated more than twice as many teachers as either W&M or UVA. It should be noted that JMU's program in 2001-2002 was a four-year program. JMU currently is switching to a five-year program. The number of African-American graduates for each program in 2001-2002 was very small (W&M = 4; JMU = 4; UVA = 9), suggesting a major challenge for the public schools of the Commonwealth.

Consistent with Virginia's new regulations, undergraduates at the three institutions no longer have the option of majoring in education in order to obtain a teaching license. W&M offers a four-year program leading to a teaching license and a BA or BS in an academic major. Students interested in becoming elementary teachers must complete a dual major. As noted earlier, JMU recently joined UVA in requiring undergraduates seeking a teaching license to complete a five-year program. Early Childhood Education students at JMU at present, however, are only required to complete a four-year program. Students in the five-year programs earn a BA

or BS in an academic major and a Master's of Arts in Teaching (JMU) or a Master's in Teaching (UVA) in their teaching field.[4] Each program also offers graduate degree options for experienced educators and individuals who completed their undergraduate work without qualifying for teacher licensure.

W&M undergraduates are required to complete between 16 and 21 credits in professional education courses not including practica and student teaching courses. This coursework is undertaken during their third and fourth years. JMU students take between 22 and 34 credits in professional education beginning in their second year and extending through their fifth year. UVA students also take professional education courses every year but their first, but the number of required credits in professional education is between 18 and 20 credits. Credit requirements associated with academic majors vary considerably across institutions. A UVA student typically must complete between 27 and 36 credits in an academic major while a JMU student could take as many as 60 credits.

The specific courses required in professional education studies reflect both similarities and differences. Students at all three institutions are expected to cover content related to learning and human development, instructional technology, contemporary issues in education, classroom management, teaching methods, and the needs of exceptional learners. All three programs entail field experience prior to student teaching. The amount, timing, and nature of the field experience varies, however, across programs. UVA students, for example, visit schools as early as their second year, while students at the other two institutions begin their field experience in their third year.[5] Field experiences at all three institutions are tied, in most cases, to specific courses, such as "Teaching in a Diverse Society" (JMU), "Content Reading and Writing" (W&M), and

[4] Special education students in JMU's five-year program receive a Master's of Education degree.
[5] Special education is an exception. At JMU, special education students begin field work in their second year. At W&M, field placements in special education only are made for graduate students.

"Teaching As a Profession" (UVA). Students at W&M and UVA must complete 4 credits of field experience prior to student teaching, while their JMU counterparts are required to complete 2 or 3 practicums, representing from 80 to 168 hours of field work, before assuming student teaching responsibilities.

Some differences can be found in the professional education courses required at the three institutions. JMU and UVA, for instance, require all students to take separate courses in assessment practices and methods of educational research. At W&M, assessment concepts are embedded in the methods course for all program areas except for special education, which requires both assessment and research methods courses. Most JMU students take coursework in "Reading and Writing across the Curriculum." W&M and JMU require a course in educational foundations, while all UVA students conclude their coursework with "Contemporary Educational Issues."

Virginia's regulations for teacher preparation require all candidates for a teaching license to complete an academic major. At W&M, prospective elementary education teachers couple an academic major with a second major in elementary education. JMU students preparing to be elementary and middle school teachers complete the Interdisciplinary Liberal Studies (IDLS) major, which involves 34 to 42 credits in either "sciences" or "humanities/social sciences." Many special education students at JMU also opt for the IDLS major. JMU students preparing to teach in high school complete a major or its equivalent in an academic discipline. UVA students preparing for any level of teaching must complete an academic major consisting of between 27 and 36 credits.

Student teaching is a central component of all three teacher preparation programs. At W&M, most students undertake student teaching for 10 weeks in the last semester of their senior

year. Elementary education students have the option of completing student teaching during the fall of their senior year. At JMU, student teaching varies by program, with elementary education candidates completing an 8-week full-time (280 hours) assignment and secondary education and K-12 special education candidates completing two 8-week fulltime (560 hours) assignments, all in their 5th year. Secondary education candidates teach one 8-week block in a middle school and one 8-week block in a high school. Special education candidates must student teach at two sites as well. UVA students complete a 16-week fulltime student teaching assignment in one school during the fall semester of their fifth year.

Admissions requirements

Table 2 compares admissions requirements and procedures at the three institutions. Once again, some differences are found. Admission to the teacher preparation program is the least complicated at W&M, which requires only an application form and a 2.0 grade point average. JMU students must obtain two references and their advisor's endorsement, earn a passing score on Praxis I, achieve grades of "C" or better in three specified courses, and have a cumulative grade point of 2.5 or better. They also must have completed training in "Universal Precautions" and "Child Abuse and Neglect Recognition and Intervention" and have no convictions involving "moral turpitude." UVA applicants also must complete a formal application. Preference is given to students with SAT scores of 1000 or better and grade point averages of 3.0 or better. In order to be admitted for graduate study in their fifth year, UVA students must have an overall grade point average of 2.75 and a 3.0 in their academic major, a letter of recommendation pertaining to their teaching potential, satisfactory performance in their field experiences, demonstrated proficiency in public speaking, and "satisfactory performance" on the PRAXIS I and Graduate Record Examination.

Students at JMU and UVA are encouraged to apply to the teacher preparation program in the second semester of their first year. At W&M, students apply during the second semester of their sophomore year.

Quality control and retention measures

Table 3 indicates that each institution has made provisions to ensure that students in teacher preparation are monitored and advised over the course of their programs.[6] Some of these provisions involve people in special roles. At W&M, the Associate Dean for Professional Services oversees all field placements, while at JMU the Director of the Education Support Center supervises admissions, handles reporting, and coordinates retention, placement, and exiting processes. UVA's College of Arts and Sciences appointed a new Associate Dean to oversee recruitment and advisement of prospective teachers. Student teachers from UVA are supervised by clinical instructors (veteran classroom teachers) and advanced doctoral students from the Curry School of Education. Professors from the content area also visit student teachers, though usually not on a regular basis. In W&M's and JMU's teacher preparation programs, regular (full-time) faculty serve as field supervisors for student teachers. Because W&M clusters its student teachers at 10 partner schools, on-site coordinators from the schools also are appointed and charged with assigning and monitoring student teachers. Veteran classroom teachers handle the daily supervision of student teachers from all three institutions. They also complete evaluations of the performance of their student teachers.

All three institutions call for faculty advisors to counsel students during the course of their teacher preparation program. In addition, W&M offers formal orientations upon entering

[6] Teacher education programs at the 3 institutions are accredited by NCATE, which requires that every program provide a performance-based assessment system. Assessment must begin at the point of application and continue through program completion and into post-graduate employment. Assessment data must be maintained for individual candidates as well as aggregated across candidates.

the teacher preparation program, prior to beginning practicum experiences, and prior to student teaching. UVA provides several types of orientation as well as mentoring groups for minority and transfer students. Provisions are in place at each institution to review student progress on a regular basis. Students must maintain portfolios of their coursework for each program and achieve a minimum grade point average in order to complete their teacher preparation program. W&M and JMU have developed a progressive intervention process for students who are experiencing academic or teaching performance difficulties.

Elementary Education

This section focuses on the Elementary Education program at each of the three institutions. It should be noted that JMU offers separate preparation programs for Early Childhood Education and Elementary (pre-K to 6) Education. Only the latter program will be examined here. All Elementary Education students complete the requirements for Early Childhood Education during the course of their program. Descriptive material in Table 4 covers program requirements, field work, and special assignments.

All three programs cover the content areas prescribed in the state guidelines, but they do not necessarily handle them in the same way. Sometimes required content is assigned to a particular course; in other cases content is integrated into the curriculums of several courses. The credits associated with particular content areas can vary considerably. Consider the case of instructional technology, a content area required by the state. At W&M, elementary education students take Instructional Technology for one credit and Teaching with Technology for one credit. Other courses also may touch on technological applications. At JMU, technology is covered in a “general education” requirement plus a 3 credit course that also deals with developmentally appropriate teaching methods. Once again, other courses also may address

topics related to instructional technology. Elementary Education students at UVA take a 2 credit course, Introduction to Educational Technology, with students in other teacher preparation programs. They also take a one-credit course specifically devoted to technology in the elementary classroom. In addition, their culminating course, Contemporary Educational Issues, deals with various on-line cases and threaded discussions using the course Web-site.

Reading and language skills is another content area covered in all 3 programs, but in different ways. At W&M, students take Reading and Language Arts Curriculum and Instruction for 4 credits plus a practicum in the same area for one credit. At JMU, students take Early Literacy Development and Acquisition for 3 credits or Literacy Learning in the Elementary Grades for 3 credits, depending upon their focus (Early Childhood Education or Elementary Education). In addition, they take Reading Across the Curriculum for 3 credits. UVA students in Elementary Education complete 9 credits in reading and language skills, including Reading Development, Language Skills Block A, and Language Skills Block B. Both Language Skills Block A and B require a specific school experience related to reading and the language arts.

Students at each institution complete coursework in several other content areas, including child development and learning, mathematics instruction, science instruction, educational foundations, and the needs of exceptional learners. Pedagogy and assessment methods are covered in the context of curriculum areas (language arts, mathematics, science, social studies), but additional content is presented in separate courses at JMU (Differentiated Instruction) and UVA (Curriculum and Instruction; Instruction and Assessment). W&M requires students to complete a one-credit course in Classroom Management, while JMU requires a 2-credit Seminar in Family and Community.

Ample opportunities for field experiences are built into all 3 programs. Total hours devoted to student teaching and field-based practice vary considerably, with the University of Virginia calling for 590 hours, the College of William and Mary expecting 435-495 hours and James Madison University requiring 360-370 hours. All three programs exceed the state's expectations for 300 hours of field experience. At W&M, a one-credit practicum is linked to each course dealing with a core curriculum area. W&M students undertake student teaching in the fall or spring semester of their senior (4th) year, while UVA students teach full-time during the fall semester of their 5th year. JMU students teach one 8-week block (280 hours) in either grade 4 or 5, usually in their 5th year. All 3 programs also require students to complete a culminating field-based research project. UVA, in keeping with the program's focus on teachers as reflective practitioners, requires students to keep a journal of their reflections on teaching and coursework and complete an autobiographical account of their prior educational experiences. Another distinctive feature of the program at UVA is the Seminar in Elementary Education that is conducted exclusively in the schools where students are student teaching. Cooperating teachers participate in the seminar on a regular basis and their contributions are reported by student teachers to be significant.

Secondary Mathematics

Prospective Mathematics teachers take a combination of courses in mathematics, offered by professors of mathematics, and courses in Mathematics Education, offered by faculty in the school of education. Table 5 summarizes program requirements at the 3 institutions. UVA students must complete 40 credits in mathematics, including at least 6 graduate credits (since they also earn a graduate degree). Mathematics courses must include Calculus (12 credits), Linear/Modern Algebra, Statistics, Geometry, Analysis, Probability, Differential Equations,

Discrete Mathematics, and the History of Mathematics. Secondary Mathematics students at JMU and W&M are required to complete 40 and 38 credits respectively in mathematics. W&M specifies that students must pass topics in Geometry, Introduction to Number Theory, Probability, and Statistics.

University of Virginia students also are required to complete 9 credits in Mathematics Education, including a graduate seminar, and 6 credits in computing, including a graduate course geared specifically to the teaching of mathematics and science. Six credits in Mathematics Education are scheduled prior to the beginning of the teaching internship in the fall semester of the fifth year. William and Mary students complete 7 credits and James Madison students 6 credits in Mathematics Education. The content of Mathematics Education at all 3 institutions includes teaching methods in mathematics and Virginia's Standards of Learning in mathematics, among other topics.

When asked to comment on field experiences and special assignments, faculty and students in Secondary Mathematics at each institution identified a variety of activities. At W&M and UVA, emphasis was placed on practice teaching in front of peers and instructors. Immediate feedback was a key component of these sessions. Students in all three programs were expected to develop and test sample lessons and homework problems. A special effort was made at W&M and JMU to align practicum assignments with course activities. At UVA, students take their final Mathematics Education course in conjunction with their teaching internship.

Each program was characterized by certain special features not reported for the other programs. W&M, for example, engaged students in evaluating mathematics textbooks, offered a course on Mathematics for Special Populations, and stressed the use of manipulatives. JMU students enjoyed opportunities to student teach at both middle and high school and collaborate

with peers taking a science methods course. The uniqueness of UVA program derived in large measure from the emphasis placed on educational technology. Students are exposed to and have opportunities to test and evaluate state-of-the-art hardware and software, thanks to a close working relationship between Mathematics Education and Instructional Technology faculty and to contractual relationships with hardware and software producers. UVA students receive their Mathematics Education instruction in a "math lab" setting that prepares them to design their own "problem-based" classes when they begin teaching. Much of their work in Mathematics Education focuses on learning to analyze how adolescents solve mathematical problems. Preservice teachers at UVA take some of their coursework with veteran mathematics teachers earning advanced degrees, thereby affording the former a chance to learn directly from experienced educators.

Secondary English

This section describes the Secondary English programs at each of the three institutions (see Table 6). All three programs require a comparable number of credits in the English major, with William and Mary requiring the most credits (36), James Madison requiring 33, and the University of Virginia requiring 30. The requirements for methods courses are similar, with programs at UVA requiring 3 credits, JMU requiring 6 credits and W&M requiring 7 credits (due to the addition of a one-credit seminar course taken during student teaching). Both JMU and UVA require courses in Adolescent Literature and the Teaching of Composition. W&M also requires a course in Adolescent Literature. While UVA requires a language pedagogy course, which includes contextualized grammar instruction, JMU's program is the only one that requires stand-alone grammar (both traditional and modern) courses for teachers.

Field placement requirements vary a bit more among the three institutions. UVA's program includes three field placements in English classes prior to student teaching but they are not tied directly to English methods courses. W&M's program calls for four field experiences before student teaching, with one of them linked to assignments in an English methods course. JMU links activities and assignments in field placements each semester with specific courses, such as Technology and Multicultural Education.

Each of the three institutions expects students to develop an instructional unit as a major requirement of its content methods courses. W&M and JMU require these units to be implemented during student teaching and/or field placements. At UVA, the unit is designed for implementation in the student teaching semester but its use is determined by the student teacher and supervising teacher. A James Madison student's unit is a collaborative effort, with students working in pairs or small groups to complete their units. All three programs use self and peer evaluation and reflection as methods of assessment. At W&M, students are asked to engage in reflective processes on their instructional unit during and after planning and during and after teaching. At the midpoint of student teaching, they collaborate with cooperating instructors and a university supervisor to set professional goals based on what they are learning during the process. At JMU, cooperating school-based instructors along with university faculty and peers are asked to evaluate these units. University of Virginia students reflect on the design and implementation of their instructional unit through a structured feedback process with university faculty.

Each program places a fairly heavy emphasis on technology. UVA requires students to demonstrate technology integration in their instructional units. One of UVA's major assignments is a Heuristic Quest, a web-based research project that concludes the students' semester-long

work in a language methods course focused on the role played by culture in defining literacy. Both W&M and JMU require students to use a computer-based courseware tool to post their assignments and completed units.

Despite the commonalities noted above, each of the programs had distinctive features that set them apart from the other two. James Madison, for example, is the only program with a specific grammar requirement. In addition, its student teachers complete a split placement, spending eight weeks in both a middle school and a high school classroom. W&M students are encouraged to become actively involved in professional organizations. They attend conferences and collaborate with faculty on conference presentations. UVA emphasizes teaching for social justice in its English content courses. Fifth year students are required to complete a final semester project based on an issue they identify during their student teaching placement. There is also a focus on individuality in assignments. Students are encouraged to construct their philosophy of instruction, identify their strengths, explore their own interests and reflect those strengths and interests in their teaching.

Special Education

James Madison, the University of Virginia, and William and Mary each offer a range of endorsement and degree options in Special Education. At JMU, students may enter the newly designed 5-year B.A. / M.Ed. program to pursue initial licensure in either Early Childhood Special Education or in grades K-12 with endorsement in Learning Disabilities (LD), Mental Retardation (MR), and/or Emotional Disturbances (ED). JMU students who already have an undergraduate degree can pursue a post-graduate Master's of Arts in Teaching (M.A.T.) or Early Childhood Special Education. At UVA, students can earn their initial licensure through the 5-year B.A. / M.T. program or the 2-year P.G. / M.T. program serving grades K-12. W&M offers

two post-graduate options: initial licensure through the M.A.Ed. degree in Curriculum and Instruction with a concentration in K-12 Special Education and the advanced endorsement through the M.A.Ed. degree in K-12 Special Education with emphases in resource and collaborative teaching.

Due to the variability of endorsement options across each of the institutions, only the initial endorsement tracks – James Madison's 5-year B.A./ M.Ed. in K-12 Special Education, University of Virginia's 5-year B.A./ M.T. in K-12 Special Education, and William and Mary's postgraduate M.A.Ed. in K-12 Special Education – will be addressed here. Each of the special education programs is designed to prepare teacher candidates to serve students with exceptionalities in a variety of educational settings, and they all require their Special Education candidates to select a dual emphasis and complete all of the relevant coursework in at least two areas of exceptionality for endorsement.

JMU and UVA both have a five-year preparation program that includes a Baccalaureate degree in an academic major and a Master's degree in special education. The program at W&M is a 14-month program resulting in a Master's degree that can be earned in addition to an undergraduate degree but is not packaged as such. Specific program requirements are detailed in Table 7. The required coursework for each program is highly structured, sequential, and designed to have a cumulative effect. All of the programs require their Special Education majors to take courses in characteristics of exceptional students, methodology for special education, reading and reading diagnostics, principles of curriculum and instruction for special education, classroom management, psychoeducational assessment, mathematics instruction, technology (instructional and assistive), research methods and applied research, language development, and

current trends and legal issues in special education. Each program also requires students to study and implement upper-level instructional strategies that differentiate for diverse learners.

At all three institutions, special education majors are required to take an assessment course. JMU also requires students to take a diversity course with a related practicum, and a course on collaborative teaching. W&M, like JMU, requires students to take a course on collaborative practices. Priority is placed on students learning about current issues and trends regarding consultation. Teacher candidates at all three institutions are expected to understand the best instructional practices for a variety of settings, including resource and collaborative classrooms.

At W&M and JMU, faculty members coordinate their assignments and align their syllabi with the Council for Exceptional Children competencies. Along with W&M, JMU and UVA rely heavily on case studies and case-based analyses. The collection and organization of artifacts into portfolios is a high priority at all three institutions. Both JMU's and UVA's portfolio systems are online. W&M students maintain a "paper" portfolio. All three portfolio models are aligned with the standards of the Council for Exceptional Children and conform to NCATE requirements for ongoing performance-based assessment. Examples of performance-based assignments include writing an Individualized Education Plan (IEP), creating a social skills project for a student, and designing curriculum-based measures to assess student progress in some area of performance. At JMU, teacher candidates' "dispositions" also are a major focus for ongoing assessment.

Technology is stressed in all three programs. At JMU and UVA, technology competence must be demonstrated prior to entering the teacher preparation program. Students in each program are required to take a course in assistive and instructional technology.

Field placements vary in the three programs, in part due to the 5-year nature of the JMU and UVA programs and the 14-month program at W&M. Students at both JMU and UVA have multiple field experiences prior to student teaching. For student teaching, JMU students complete two placements that focus on different disabilities during the semester block, UVA students have a 14-week associateship, and W&M students undertake two 10-week student teaching placements in 2 different schools at different levels and focusing on different disabilities. One of the two placements must be in a school with a diverse population.

Each of these programs is characterized by certain distinctive features. Two examples at JMU are the general education semester and the core case studies. During the general education semester, students take mathematics and reading courses coupled with a practicum in which the students are placed with regular education teachers who provide them with opportunities to practice collaboration techniques and observe the demands of the classroom. The case studies are designed to tie all of the Special Education courses together. The cases highlight three individuals who are introduced in the first course on characteristics of exceptional children and adolescents. As the students go through the program, the cases are revisited and each exceptional student's story unfolds as a basis for discussion around such topics as assessment, instruction, and classroom management. A distinctive feature at UVA is the faculty's active involvement in ongoing research. A noteworthy aspect of the W&M and JMU programs is the culminating research project and its public presentation. The research project can be a critical literature review, a quantitative or qualitative study, unit development, faculty in-service, or published article. Students showcase their project during the Master's Exposition when they present a brief poster session of their research.

Assessing the Programs

Having described various features of teacher preparation programs at three Virginia universities, we return to the question that serves as the title of this study. Will state regulation of teacher education diminish program diversity? Since we did not examine teacher preparation programs prior to 1998, when new regulations went into effect, we cannot say whether variations across programs have increased or decreased. What we can say, however, is that the creation of new standards governing teacher education in Virginia has not completely eliminated program differences.

Using Porter's distinction between "performing different activities from rivals" and "performing similar activities in different ways" (1996, p. 62), the primary differences among institutions were found in the different ways similar program functions were handled. Although differences were found in some of the specific activities at each institution (e.g., specific courses in professional education), the majority of differences concerned how similar activities, such as integrated field placements, were undertaken. Integrated field placements are required by the state for all teacher preparation programs, and yet the level of integration with methods courses, the duration of field placements, the individuals serving as supervisory personnel, and the degree of collaboration between the schools and universities varied. Other mandated program elements such as the use of technology, evaluation of student performance, and classroom management were found in each of the preparation programs at the three institutions, but they sometimes were addressed as stand-alone courses, and at other times they were embedded in broader courses.

If we focus on the general features of teacher preparation at the three universities, some degree of variation was found in the areas enumerated in Table 8.

Insert Table 8

When we looked at the characteristics of specific programs in Elementary Education, Secondary Mathematics, and Secondary English, we also found some differences. Among the variations were the following differences: (a) Number of required credits in teaching specialization, (b) types of required courses in teaching specialization, (c) number of required credits in academic major, (d) types of required courses in academic major, and (e) types of special assignments and learning opportunities

The identification of variations across teacher preparation programs at three universities suggests that the promulgation of state standards has not resulted in "standardized" teacher education in Virginia. At the same time, we recognize that the program differences we identified may not necessarily be educationally meaningful. To be educationally meaningful, a program feature must be associated with some desired outcome that would be less likely to occur without the program feature. In other words, the program feature should add value to the preparation of teachers in a particular program. Such added value would become manifest in the professional performance of program graduates and the achievement of those they teach. Those graduating from programs lacking the feature would be less likely to achieve desired outcomes.

Teacher preparation programs in Virginia at present are permitted to develop their own "published criteria" to judge the competence of candidates for licensure. Each of the three institutions in this study used passing scores on the Praxis II, portfolios, course grades, and supervisory evaluation material as the basis for judging the knowledge and skills of teaching candidates. The evaluation procedures focus on reaching a specified standard of practice and

demonstrating a certain set of teaching competencies, rather than growth towards that standard as a result of the program. While great attention is given to the teaching activity itself, its impact on students with whom the candidates work receives relatively little emphasis. The growth in skill level of the teaching candidate and the academic growth of students served by the teaching candidates are both facets of added value that should be explored by teacher preparation programs.

In thinking about the "value added" issue, we reviewed the list of program variations in light of the small body of research on the effectiveness of teacher education (Wilson, et al., 2001). Where research was lacking, we relied on our experience as educators and a measure of common sense. We found the greatest degree of agreement was associated with the importance of three aspects of teacher preparation: (a) the depth of knowledge in the content area to be taught, (b) the level of pedagogical skill related to the content area, and (c) the quality of field experiences, including student teaching (Darling-Hammond, et al., 2002; Education Commission of the States, 2003; Wenglingsky, 2000; Wilson, et al., 2001). We shall examine the three teacher preparation programs in light of these three key features.

It is generally assumed, at least for secondary education teachers, that depth of content knowledge is related to exposure to academic coursework in the content field (Carnegie Task Force on Teaching, 1986; Hinds, 2002; Holmes Group, 1986). In other words, what matters most is content taught in the discipline itself, not education courses related to the content. All three institutions require teachers to major in an academic discipline or interdisciplinary program of academic studies. Majoring in education no longer is an option in Virginia. Can it be presumed, therefore, that the more credits in an academic major a teacher candidate is required to take, the greater their depth of content knowledge? The answer is hardly straightforward, since

the number of required credits may not represent the nature of the required courses or the quality with which they are taught. Does it matter that prospective mathematics teachers at W&M are required to take 38 credits in mathematics, while their counterparts at JMU and UVA must take 40 credits? Is it noteworthy that UVA students must study the history of mathematics, while W&M and JMU students have no such requirement? Does exposure to advanced mathematics content matter if teacher candidates eventually teach basic Algebra I and Geometry courses? We do not know the answers to these and related questions, but now that we have identified variations in the academic content of teacher preparation programs, we can encourage researchers to see whether these variations are associated with eventual differences in teacher effectiveness.

Pedagogical skill related to the content area is the second dimension of teacher effectiveness that is likely to be influenced by the quality of teacher preparation programs (Wilson, et al., 2000). While it is possible that academic coursework touches on instructional matters, the bulk of preservice exposure to content-related pedagogy is likely to occur in so-called "methods" courses offered by education faculty. Our study revealed differences in the number and types of required methods courses and in exposure to instructional technology. In addition, the level of integration between methods courses and field experiences, the instructional strategies used to teach methods courses, and the assignments required of students varied across programs. Whether these differences ultimately impact teacher effectiveness again remains to be determined. Does it matter, for example, that preservice teachers in one program are videotaped delivering a lesson and provided with expert analysis of the videotaped lesson, while those in other programs are not? How important is it that teacher candidates are exposed

to cutting-edge instructional technology? Is such exposure of value only if these individuals are hired by well-to-do school systems that can afford to provide the latest technology?

The quality of field experiences and student teaching was the third area of teacher preparation associated with teacher effectiveness (Hinds, 2002; National Commission on Teaching and America's Future, 2003). Here, again, variations were found among the programs studied. Differences involved the number of required practicum (field experience) credits, the nature of practicum assignments, the number of hours of student teaching, and the type of student teaching placement. Once again, unanswered questions arise. Is a 16-week student teaching assignment in one location demonstrably better than two 8-week assignments in different locations or one 10-week assignment? Does it make a difference to be supervised by an education professor as opposed to a doctoral student in education? Does the training provided to cooperating teachers improve the quality of on-site supervision?

Having found program variations that could be related to eventual teacher effectiveness, the challenge now is to conduct research that is sufficiently sensitive to differentiate the impact of particular variations on student teacher learning and the achievement of those they instruct. Each of the teacher preparation programs that we studied involved multiple differences. Separating the effects of particular variations will be challenging, if not impossible. Add to this problem the fact that program effects are likely to be affected by a teacher candidate's ultimate placement and particular teaching assignment and the complexities grow exponentially. It may be that the most we can expect, at least for now, is to determine a generalized "program effect" rather than effects of particular aspects of a program. Still, the methodological challenges will be daunting.

We began this study wondering whether one effect of greater state regulation of teacher education had been the elimination of variations across programs and universities. Having discovered that program and institutional variations exist, it is now necessary to determine whether these variations help to account for differences in teacher effectiveness and student achievement.

References

Blair, J. (March 3, 2004). Congress orders thorough study of teacher education programs. *Education Week,* p. 13.

Carnegie Task Force on the Future of Teaching. (1986). *A nation prepared: Teachers for the 21st century*. New York: Carnegie Corporation of New York.

Darling-Hammond, L., Chung, R., & Frelow, F. (2002). Variation in teacher preparation: How well do different pathways prepare teachers to teach? *Journal of Teacher Education, 53*(4), 286-302.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Educational Policy Analysis Archives, 8*(1). Retrieved May 13, 2004, from htt;://epaa.asu/epaa/v8n1

Duke, D. L. & Reck, B. (2003). The evolution of educational accountability in the old dominion. In D. L. Duke, M. Grogan, and P. Tucker (eds.), *Educational leadership in an age of accountability* (pp. 36-68). Albany, NY: State University of New York Press.

Education Commission of the States. (2003). *Eight questions on teacher preparation: What does the research say*? Denver, CO: Author.

Hinds, M. deC. (2002). *Teaching as a clinical profession: A new challenge for education*. New York: Carnegie Corporation.

Holmes Group. (1986). *Tomorrow's teachers*. East Lansing, MI: Holmes Group of Education Deans.

Keller, B. (November 12, 2003). Education school courses faulted as intellectually thin. *Education Week,* p. 8.

Lagemann, E. C. (February 25, 2004). Toward a strong profession. *Education Week,* pp. 48, 36.

National Commission on Teaching and America's Future. (2003). *No dream denied: A pledge to America's children*. Washington, DC: Author. This report was prepared by the National Commission on Teaching and America's Future, Hon. James B. Hunt Jr., Chairman, and Thomas G. Carroll, Ph.D., Executive Director.

Porter, M. E. (1996). What is strategy? *Harvard Business Review,* (November-December), 61-78.

Virginia Department of Education. (2001). *Regulations governing approved programs for Virginia institutions of higher education.* Richmond, VA: Author.

Wenglingsky, H. (2000). *Teaching the teachers: Different settings, different results*. Princeton, NJ: Educational Testing Service, Research Division, Policy Information Center.

Wilson, S. M., Floden, R. E., & Ferrini-Mundy, J. (2001). *Teacher preparation research: Current knowledge, gaps and recommendations.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington.

Table 1

General Program Features

	College of William & Mary	James Madison University	University of Virginia
1.1 Degree Options	• BA/BS in an academic major; Elementary Education requires a dual major • M.A.Ed. is a post-BA/BS degree for initial teaching certification	• 5 Yr Dual Degree BA/BS in an academic major; MAT in teaching field (or M.Ed. in special education) • M.Ed. for those already holding a teaching license	• 5 Year Dual Degree: BA/BS in an academic major; MT in teaching field. • Year Post-BA/BS Program leading to MT in teaching field
1.2 Required Credits – • Professional education (not counting practice, student teaching or courses in subject matter area).	16-21 (undergraduate)	22-34	18-20
• Major field of study	33-48	36-60	27-36
1.3 Sample Required Courses in Professional Education and Credits for Each Course – Secondary Education Majors*			
<u>Second Year</u>	(not applicable)	• Life Span Human Development (3) • Foundations of American Education (3)	• Teaching As A Profession (3) • Field Experience (1)

* Courses do not include requirements in specific teaching field.

Table 1

General Program Features (continued)

	College of William & Mary	James Madison University	University of Virginia
Third Year	• Educational Psychology (3) • Instructional Technology (1) • Social & Philosophical Foundations of American Education (1) • The Schools Practicum (1)	• Teaching in a Diverse Society (3)[1] • Field Experience (2) • Reading and Writing across the Curriculum (3)[2]	• Learning and Development (3) • Introduction to Education Technology (2) • Field Experience (1)
Fourth Year	• Content Reading & Writing (2) • Content Reading & Writing Practicum (1) • Curriculum & Instruction Methods: English (3) • Secondary English Curriculum & Instruction Practicum (1) • Classroom Organization, Management and Discipline (1) • Classroom Adaptations for Exceptional Students (1) • Instructional Technology Practicum (1) • Instructional Planning in Secondary English (2) • Secondary Curriculum & Instruction Seminar: English (1) • Internship in Supervised Teaching: English (7)	• General Teaching Methods and Instructional Technology (3) • Field Experience (2) • Literacy Assessment and Instruction in the Content Areas (3)	• The Exceptional Learner (3) • Instruction and Assessment (2) • Classroom Management and Conflict Resolution (secondary teacher candidates) (2) • Curriculum and Instruction (2) (elementary and special ed.) • Field Experience (2) (Linked to one of the preceding three courses)

[1]Required in second year for Special Education students (coupled with a 1 credit field experience).
[2]Not required for Special Education students.

Table 1

General Program Features (continued)

	College of William & Mary	James Madison University	University of Virginia
Fifth Year	(not applicable)	• Middle and Secondary Curriculum and Co-Curriculum (2) • Learning and Assessment in Middle and Secondary Education (2) • Education Technology (2) • Behavior Management in the Classroom (3)[3] • Educational Inquiry (3) • Differentiation of Instruction and Academic Collaboration (3) • Field Experience (2) • Internship Seminar (2) • Internship (8)[4]	• Contemporary Issues in Education (3) • Field Project (3) • Internship (12)

[3]Not required for Early Childhood Education students.
[4]Special Education students complete two 6-credit internships for a total of 12 credits.

Table 1

General Program Features (continued)

	College of William & Mary	James Madison University	University of Virginia
1.4 Academic Major	• All students major in an academic discipline. Elementary Education students double major in Elementary Education.	• All Elementary and Middle School students and many Special Education major in the Interdisciplinary Liberal Studies (34-42 credits). Students choose between Sciences and Humanities/ Social Sciences. Secondary education students major in an academic discipline related to their teaching area.	• All students major in an academic discipline (27-36 credits).
1.5 Practicum Requirements	4 credits	80-168 hours	4 credits
1.6 Student Teaching	7 credits (10 weeks) completed in last semester (except for special education)	8 credits (8 or 16 weeks) completed in spring semester of fifth year	12 credits (16 weeks) completed in fall semester of fifth year
1.7 Number of Students In Teacher Education	110	500 +	400 +
1.8 Number of Program Completers (2001-2002 Academic Year)*	108 93 (F) 15 (M) 86 (W) 4(AA) 18 (Other)	278 227 (F) 51 (M) 266 (W) 4(AA) 18 (Other)	124 105 (F) 19 (M) 100 (W) 9 (AA) 15 (Other)

* Data from the annual report of the Advisory Board on Teacher Education and Licensure, Virginia Department of Education, May 28, 2003.

Table 2

Admissions Requirements and Procedures

	College of William & Mary	James Madison University	University of Virginia
2.1 General Admissions requirements for teacher education	• Application form • 2.0 GPA in course work completed to date • Additional requirements for graduate special education program	• Application form • 2 References • Advisor's endorsement • Passing scores on Praxis I • "C" or better grades in 3 courses: GWRIT 103 GPSY 160 Mathematics Course • 2.5 GPA • No felony convictions or misdemeanors involving "moral turpitude" • Completion of training in "Universal Precautions" and "Child Abuse and Neglect Recognition and Intervention"	• Application form • Current enrollment in the College of Arts & Sciences • Statement of professional goals addressing: 1. commitment to continued learning and intellectual growth 2. interest in teaching children and youth, and 3. previous experience working with children an youth • Good academic standing (preference to 3.0 GPA and above) • SAT scores (preference to 1000 and above) Advancement to Graduate Study: • Competence in basic skills (verbal, quantitative, and computer skills) • Minimum GPA of 2.75 overall/3.0 in academic major • One letter of recommendation addressing current or potential teaching skills • Satisfactory performance in all field experiences • Demonstrated proficiency in public speaking • Satisfactory performance on the GRE and Praxis I

Table 2

Admissions Requirements and Procedures (continued)

	College of William & Mary	James Madison University	University of Virginia
2.2 Admissions Procedures	• Students apply to the elementary or secondary education program during the second semester of the sophomore year before they declare a major in Arts and Sciences.	• Students are encouraged to apply in second semester of first year. • Students are not required to complete all admissions requirements in order to apply.	• Students are encouraged to apply in second semester of first year. • Students also may apply in second year, but they must make up course work in the summer. • Students applying to teach in high need areas (math, science, special education) may apply as late as their third year.

Table 3

Quality Control and Retention Measures

	College of William & Mary	James Madison University	University of Virginia
3.1 Staffing Administration	• Associate Dean for Professional Services oversees all field placements	• Director of the Education Support Center coordinates admission, retention, placement, and exiting processes	• New Associate Dean in College of Arts & Sciences appointed to oversee advisement and recruitment of prospective teachers
Field Supervision	• Professors serve as field supervisors • Clinical instructors (cooperating teachers) • On-Site Coordinator at 15 partner schools for clinical faculty and student teachers	• Professors serve as field supervisors • Cooperating teachers	• Doctoral students serve as field supervisors • Clinical instructors (cooperating teachers)
3.2 Student Advisement	• Individual advisement with faculty advisor • 3 levels of formal advisement o Program orientation o Practice orientation o Student teaching orientation	• Individual advisement with faculty advisor • Meeting with program coordinator • Program orientation • Student teaching orientation	• Individual advisement with faculty advisors* • Mentoring groups for minority and transfer students • Program orientation • Student teaching orientation

* Each student has an advisor in teacher education and an advisor in their academic major.

Table 3

Quality Control and Retention Measures (continued)

	College of William & Mary	James Madison University	University of Virginia
3.3 Monitoring of Student Progress	• Case by case assistance through advisement process • Formal process o Semester review by faculty of outliers in cohort groups o Faculty member is assigned to each student that is a concern o A formal review process is developed for each identified student o If concerns continue or arise during student teaching, a formal improvement plan is developed and followed. Students are released from the program based on unsatisfactory performance. • Students must earn a GPA of at least a 2.0 to graduate • Degree credit is granted only for coursework in which the student earned a C- or better. • Students must pass Praxis I before they can student teach • Students must pass Praxis II before program completion • Students develop paper portfolios with artifacts prescribed by their individual content areas reflecting NCATE Standards, the School of Education Conceptual Framework and School of Education Teaching Competencies	• Review of student progress at end of each semester • Students must maintain a 2.5 GPA • Students must pass Praxis I before they can student teach • Students required to develop on-line portfolios • Progressive intervention process for students experiencing problems • Formal process o Semester review by faculty of outliers in cohort groups o Faculty member is assigned to each student that is a concern o A formal review process is developed for each identified student o If concerns continue or arise during student teaching, a formal improvement plan is developed and followed. Students are released from the program based on unsatisfactory performance.	• Annual faculty review of all enrolled students • Database for tracking student progress • Students must pass Praxis I before they can student teach • Program audit for each fourth year student • Students required to develop on-line portfolios • Students must maintain an overall 2.75 GPA and a 3.0 GPA in their major

Table 4

Elementary Education – Overview of Programs

	College of William & Mary	James Madison University	University of Virginia
1. Program Requirements	The 4 year program leading to K-6 licensure includes *33 credits* of coursework and field experiences[7] over 3 semesters: • Child Development & Learning (3) • Educational Foundations (3) • Exceptional Populations (1) • Classroom Management (1) • Instructional Technology (1) • Reading and Language Arts Curriculum & Instruction (4) • Reading and Language Arts Curriculum & Instruction Practicum (1) • Social Studies Curriculum & Instruction (2) • Social Students Practicum (1) • Teaching with Technology (1) • Adaptations for Exceptional Students (1) • Science Curriculum & Instruction (2) • Science practicum (1) • Math Curriculum & Instruction (2) • Math Practicum (1) • Student Teaching (7)	The 5 year program leading to pre-K-6 licensure includes *73 credits* of coursework and field experiences over 7 semesters: • Intro. To Elementary Ed. (3) • Foundations of American Ed. (3) • The Young Child (3) • Practicum in Early Child. Ed. (1) • Practicum in Child Develop. (1) • Early Literacy Development & Acquisition (3) • Children & Math (3) • Practicum in Primary Grades (3) • Science and Social Studies for Young Children (3) • Literacy Learning in Elem. Grades (3) • Integrated Day Practicum 1-3 (3) • Seminar in Family/Community (2) • Student Teaching in Grades 1-3 (8) • Developmentally Appropriate Methods & Technology (3) • Practicum (1) • Differentiated Instruction (3) • Reading Across the Curriculum (3)	The 5 year program leading to K-6 licensure includes *56 credits* of coursework and field experiences over 7 semesters: • Teaching as a Profession (3) • Field Experience (1) • Intro to Educational Technology (2) • The Exceptional Learner (3) • Learning & Development (3) • Technology in the Elementary Classroom (1) • Reading Development (3) • Field Experience (1) • Curriculum & Instruction (2) • Instruction & Assessment (2) • Field Experience (1) • Language Skills Block A (3) • Language Skills Block B (3) • Teaching f Science (3) • Field Experience (1) • Teaching Math (3)

[7] Courses that involve field experiences are underlined.

Table 4

Elementary Education – Overview of Programs (continued)

	College of William & Mary	James Madison University	University of Virginia
1. Program Requirements	• Student Teaching Seminar (1)	• Teaching Math in Grades 4-6 (3) • Teaching Science in Grades 4-6 (3) • Integrating Humanities / Social Science Methods (3) • Integrated Field Experience (3) • Inquiry in Elementary Grades (3) • Student Teaching in 4th or 5th Grades (4) • Issues in Elementary/Middle Years (3) • Final Presentations (2)	• Teaching Social Studies (3) • Student Teaching (12) • Seminar in Elementary Education (3) • Contemporary Educational Issues (3) • Field Project in Education (3)
2. Field Experiences and Special Assignments	• Final Project for seniors, including public presentation[8] • 435-495 hours of field experience (including student teaching)	• Culminating action research project • 360-370 hours of field experience (including student teaching)	• Culminating action research project • Educational autobiography and reflective journal • Web-based cases and case analysis • 590 hours of field experience (including student teaching)

[8] Required of all students in teacher preparation programs

Table 5

Secondary Mathematics – Overview of Programs

	College of William & Mary	James Madison University	University of Virginia
1. Requirements	• 38 credits in mathematics • must include topics in geometry, intro. to number theory, probability, and statistics • 7 math ed. credits	• 40 credits in mathematics • 6 math ed. credits	• 40 credits in mathematics • must include calculus, linear/modern algebra, statistics, geometry, analysis, probability, differential equations, discrete mathematics, and history of math • 9 math ed. credits • 6 credits in computing
2. Field Experiences and Special Assignments	• Journals • Students create and teach math problems to peers and students • Lesson plans – create, teach, reflect on impact • Web resources project • Textbook series evaluation • Blackboard – post and share • Present and peer-critique manipulatives project • Class and field placements assignments are aligned • Math Counts problems – mini lessons to each • Video tape of teaching and self/peer critique • Create unit that is revised in three classes • Write 2 units with C1 • Math for Special Populations course • Focus on using manipulatives	• Unit plans • Philosophy statements • Practicum tied directly to courses (3 practica, student teaching) • Final presentation of portfolio to faculty • All students do a split placement – middle school and high school • Collaboration with science methods students	• Weekly homework problems – discuss multiple solutions, how to teach them • Peer teaching – critique from peers and instructor • Papers on math standards • Focus on teaching how to "think through" a problem • Pre-service teachers take classes with veteran math teachers • Exposure to and use of state-of-the-art software and hardware • Students learn to combine technologies (for example, digital imaging and computer-based geometry problems) • Students critique new technology – based math materials • Students receive instruction in a "math lab" setting

Table 6

Secondary English – Overview of Programs

	College of William & Mary	James Madison University	University of Virginia
1. Program Requirements	• 36 semester credits in English • 7 English methods credits EDUC 441: Curriculum and Instruction Methods: English (3) EDUC 438: Instructional Planning in Secondary English (3) EDUC 449: Secondary Curriculum and Instruction Seminar: Math (1)	• 33 semester credits in English • Must take Adolescent Lit, Writing about Lit, Traditional Grammar, Modern Grammar, (12 credits) • 6 English methods credits MSSE 370: General Teaching Methods (3) READ 472: Literacy Assessment and Instruction in the Content Areas for Middle and Secondary Grades (3)	• 35 semester credits in English • Must take Teaching Composition and Adolescent Lit (6 credits) • 6 English methods credits EDIS 540: Teaching of English (3) EDIS 542: Language, Literacy, and Culture (3)
2. Field Experiences and Special Assignments	• Assignments that scaffold design – fuse scholarship and theory • Reflective pieces are key (3 major) • Major reflective practice assignment, set 3 goals, reflect mid-semester, set 3 more goals, reflect on those, and set 3 more for year 1 • Field: 10 assignments for the Methods Practicum • Use Blackboard for posting assignments, responding to readings and discussing student teaching issues	• Instructional Unit/Portfolio • Work in pairs – (2 drafts – reviewed by professor, peer, and teacher) • Post units on website – lots of outside comments and request for usage • Model instructional practices, then discuss them • Micro-teach with videotape – one-on-one analysis with professor • Poster session for sub topics – (women, southern writers, grammar) • Resource (texts, etc.) evaluation	• Instructional Unit in methods course • Final portfolios in Adolescent Lit. and Teaching Composition – student choice of topic • Heuristic Quest (Web page) • Self and peer evaluations • Autobiographies • Many small tasks based on readings and class discussions Peer teachings of student topics of interest

Table 7

Special Education – Overview of Programs

	College of William & Mary	James Madison University	University of Virginia
1. Program Requirements	▪ 14-month M.A.Ed. program, K-12 (LD, MR, or ED) ▪ 9 credits in foundations coursework ▪ 32 credits in professional education ▪ 8 credits of student teaching	▪ 5-year B.A./B.S./ M.Ed. program, K-12 (LD, MR, and/ or ED) ▪ 80-86 credits in arts & sciences coursework ▪ 38 credits in pre-professional education (400 level classes and below) ▪ 23 credits in professional-level coursework (500-level classes and above) ▪ 20 credits (total) of field experiences	▪ 5-year B.A./M.T. program, K-12 (LD, MR, and/ or ED) ▪ 102-120 credits in arts & sciences coursework ▪ 8 credits in pre-professional education (400-level classes and below) ▪ 38 credits in professional-level coursework (500-level classes and above) ▪ 16 credits (total) of field experiences
2. Field Experiences and Special Assignments	▪ Faculty coordinate assignments and align syllabi with competencies ▪ Case studies ▪ Instructional practices focus on demonstrating method covered in class ▪ Maintain paper portfolio ▪ Final self-assessment based on CEC competencies ▪ Two 10-week student teaching placements. Each differ by level, disability, and general diversity (8 credits total) ▪ Students remain at the same school for both student teaching placements.	▪ Study and implement upper-level instructional strategies to differentiate for diverse learners ▪ Consultation and collaboration ▪ Curriculum-based assessment ▪ Focus on performance-based assessments. ▪ Case-based analyses ▪ Begin in fall semester of 2nd year ▪ 6 Pre-student teaching field experiences (8 credits total) which complement either a characteristics course and/ or a methods course ▪ 1 Post-student teaching research project (3 credits) ▪ 2 Student Teaching experiences occur in spring semester of 5th year (12 credits) ▪ Professional dispositions assessed during and after each field placement	▪ Study and implement upper-level instructional strategies to differentiate for diverse learners ▪ Consultation & collaboration ▪ Curriculum-based assessment ▪ Resource versus inclusion setting skills ▪ Instructional modification and curriculum design ▪ 4 Pre-student teaching field experiences (4 hours total) which complement either a characteristics course and/ or a methods course ▪ Teaching Associateship (student teaching) occurs in fall semester of 5th year for a total of 14 weeks. Students have two placements equally split in the semester block (12 hours)

Table 8. Variation across Institutions

Specific Areas of Variation across Institutions
Length of program
Types of required practicum experiences
Number of required credits in professional education
Number of credits/hours required for student teaching
Number of required credits in major field of study
Nature of student teaching placement(s)
Specific courses required in professional education
Person(s) responsible for supervising student teaching
Sequencing of professional education courses
Nature of program advisement
Exposure to instructional technology
Provisions for monitoring progress of teacher candidates
Number of credits and/or hours of practicum (field) experience prior to student teaching
Requirements for entering and remaining in teacher preparation program
Steps involved in assisting students experiencing problems