

Teacher Preparation Programs: An Assessment

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ABSTRACT

One of the goals of the Education Policy Research project was to identify a model prototype of the administrative structure of teacher preparation programs that maximizes the effectiveness of graduates. Several aspects of administrative structure were considered, including the overall program length, the amount of student teaching a program requires of students prior to graduating, and whether or not content courses are taught within the education department or rather through the arts and sciences departments.

A number of steps were taken to achieve this goal. The process began with a review of the teacher education literature which revealed that there are significant differences in teacher effectiveness that are, in part, the result of variation in the administrative structure of teacher preparation programs. The literature review also revealed criteria that researchers have associated with effective teacher programs. Scholars identified teacher preparation programs that embody the best administrative practices. This effort resulted in the collection of information on nine programs throughout the United States that were reported as exemplary by education experts. The heterogeneity of these programs in terms of administrative structure highlighted the fact that effective teacher preparation can occur in a variety of ways and settings. Despite these differences, there were common elements among the programs that contributed to the success of their graduates.

In addition to the collection of information on the exemplary programs highlighted by educational researchers, information on Florida's education programs was collected and compared to the characteristics of the exemplary programs. Finally, information on the ranking of educational programs was obtained for comparative purposes. This information was reviewed to determine the extent to which the research community's determination of high quality educational programs was consistent with the traditional, highly visible rankings published by *U.S. News & World Report*.

CHAPTER 1: LITERATURE REVIEW

1.1 Introduction

The nation's schools, colleges, and departments of education award one out of every 14 bachelor's diplomas, and produce the largest number of master's and doctoral degrees conferred in academia (U.S. Department of Education, National Center for Education Statistics, 2008). The degree programs offered through departments and colleges of education are diverse, and not only include teacher preparation programs, but programs in school psychology, school administration, educational policy, educational leadership, physical education, counseling, and many others. Identifying the characteristics that determine effective teacher preparation programs is critical to ensuring that students in elementary and secondary schools receive appropriate instruction in order to succeed in school. A review of the literature on teacher education/preparation programs was conducted to ascertain the current state of empirical evidence as it pertains to the best methods for preparing graduates for the elementary and secondary school setting. This review revealed that a consensus exists among scholars that there is a major gap in the research literature as it pertains to the empirical assessment of teacher preparation programs. As one prominent educational researcher commented,

“While some evidence suggests that better qualified teachers may make a difference for student learning at the classroom, school, and district levels, there has been little inquiry into the effects on achievement that may be associated with large-scale policies and institutional practices that affect the overall level of teachers’ knowledge and skills...” (Darling-Hammond, 1999, p.5)

Likewise, a more recent book by another distinguished educational researcher echoed the statements of Darling-Hammond,

“The bottom line is that we lack empirical evidence of what works in preparing teachers for an outcome-based education system. We don’t know what, where, how, or when teacher education is most effective.” (Levine, 2006, pp.18-19)

Despite this impediment, a number of articles and reports within the field of educational research provide some preliminary evidence. The purpose of this document is to provide an overview of the findings generated from this body of research.

1.2 The Importance of Teachers

The ability of students to learn depends in part upon the effectiveness of teachers. According to Darling-Hammond and Baratz-Snowden (2005), teachers need to (1) know how students learn, how they develop, and how they acquire and use language; (2) understand their subject matter and the purposes of the curriculum; and (3) know and understand teaching (including teaching to diverse audiences, assessing learning, and managing a classroom). Several studies have found that teacher effectiveness is a stronger determinant of student learning than such variables as class size and student demographics (e.g. Sanders and Rivers, 1996; Wright, Horn and Sanders, 1997; Jordan, Mendro, and Weerasinghe, 1997) and, moreover, that differences in teacher effectiveness can explain demographic disparities in learning among students (Ferguson, 1991). Research also indicates that the background characteristics teachers bring to the classroom significantly impact student achievement, including verbal ability (Bowles and Levin, 1968) and prior teaching experience (Murnane and Philips, 1981). While this line of research is informative with respect to the discussion surrounding the importance of having effective teachers in the classroom, it only reveals a small portion of what determines the effectiveness of teachers. A growing body of literature has started to focus upon the educational backgrounds of teachers and the kind of preparation received prior to entering a classroom. It is to this line of research that attention is now directed.

1.3 Teacher Preparation Programs

Teacher preparation programs vary widely in scope, length, and structure. With regard to the length of teacher preparation programs, for example, there are four-year bachelor degree programs, five-year programs that combine undergraduate education with a master's degree, two year master's degree programs, and still other programs that provide an alternative to a formal degree. Within each of these categories variation exists with regard to the emphasis placed on content knowledge and pedagogy. Undergraduate programs vary depending upon the students' major (elementary versus secondary majors), while graduate programs have less variation and tend to focus on pedagogy coursework rather than content areas. For example, some degree programs, such as secondary teacher preparation, require students to major in a specific content area and obtain a minor in education. In contrast to this, many elementary teacher preparation programs require students to major in education. Furthermore, there are many master's degree programs in which classes pertain only to pedagogy, and content classes are not required. There also exist significant differences among programs in the amount of time students are required to engage in supervised teaching within an elementary or secondary classroom setting prior to graduation. These considerations are the focus of the remainder of this chapter. The following sections provide a summary of findings relevant to these issues.

Length of Program

A recent survey of deans and faculty members throughout the country indicated virtually no agreement on the best model for preparing teachers with regard to program length (Levine, 2006). This finding may be attributed to the limited amount of research that has examined the relationship between program length and performance outcomes. However, a number of studies *were* identified that examined this very issue. Darling-Hammond (2000) noted that graduates of extended programs (typically the 5-year programs that combine a bachelor's degree with a master's degree) are not only more satisfied with their preparation; they are viewed by their colleagues, principals, and supervisory teachers as better prepared; and they are more likely to enter and stay in teaching than peers who were prepared in traditional four-year undergraduate programs (Andrew and Schwab, 1995; Denton and Peters, 1988). Furthermore, Levine's (2006) recommendations call for 5-year educational programs that produce a bachelor's degree and a master's degree with three components: 1) a subject matter concentration of a scope and depth that constitutes mastery of a discipline; 2) pedagogical education rooted in subject area and tied to the skills and knowledge teachers need to promote student learning; and 3) education in child development to teach the most effective ways to apply subject matter and pedagogy to educate particular groups of students. Similar recommendations were made in a report by the American Federation of Teachers (2000), which argued that it is difficult within a 4-year program to strike a balance between coursework in liberal arts, pedagogy, and a major in an academic field. These recommendations are bolstered by evidence indicating that it may be more cost effective to require students to complete a five-year program given that the entry and retention rates of graduates from five-year programs is significantly higher than graduates of four-year or alternative preparation programs (Darling-Hammond, 1999).

Balancing Content Knowledge and Pedagogy

Strongly related to the issue of the length of teacher preparation programs is the balance between the content courses a student takes and the amount of pedagogy that they should be exposed to. This often comes down to the choice of having students major in education and minor in a specialized area, or rather to have students major in a specialized area and minor in education. The number of institutions requiring an academic subject-matter major has greatly increased in recent years for teacher preparation students. The education major remains the norm, however, among elementary school teacher candidates: 83 percent continue to major in education, while eleven states require an academic subject major for elementary school teachers (American Federation of Teachers, 2000).

Despite concerns that education majors may be less prepared in their subject areas than are academic majors, one comparison of teachers with degrees in education compared to those with degrees in disciplinary fields indicated no relationship between type and teacher performance (Murnane, 1983). In contrast to this, Ferguson and Womack (1993) found that the amount of pedagogy completed was a much stronger predictor of teacher performance than content knowledge coursework. Reviewing a

number of studies examining the relationship between subject matter knowledge and student outcomes, Darling-Hammond (1999) found that there was a lack of evidence to support the idea that higher scores on the National Teacher Examinations (which assess mastery of content knowledge) are related to teacher effectiveness. Monk (1994) also found that the relationship between the number of content courses a teacher has taken and student performance is curvilinear, with diminishing returns to student achievement when the number of subject matter courses a prospective teacher has taken exceeds a threshold of five. The issue of striking a balance between content and pedagogy is also informed by a national study which found that elementary and middle school principals felt that only a teacher's mastery of subject matter was viewed as adequate. For each of the other ten measures (e.g. knowledge of how students learn, using different pedagogical approaches), principals did not perceive that graduates of education programs were effective (Levine, 2006).

These studies suggest, then, that although teachers are obtaining adequate content knowledge, they are not receiving sufficient or the right kind of pedagogical knowledge that is required to successfully manage a classroom and teach an increasingly diverse elementary and secondary school population. As such, teachers may require more pedagogy than they are receiving, which implies the need to keep education programs in place and perhaps even expand them. In support of this position, Wilson, Floden, and Ferrini-Mundy (2001) suggest that perhaps as important if not more important than the content knowledge that teachers obtain is the ability to learn how to effectively teach content, which is acquired through pedagogical classes offered within education programs.

Student Teaching Experiences

The third major area that has received attention from researchers is the relationship between the amount of supervised teaching a student receives in the classroom and performance outcomes. It is important to note that the amount of time students are required to spend in a classroom setting prior to graduation varies significantly from program to program. Some programs require students to enter the classroom as early as their sophomore year, engaging in such activities as mentoring, while some programs do not require students to participate until the final semester of a program. Reviewing the variety of requirements with regard to student teaching, Levine (2006) notes,

“Students have limited clinical or field work experience today in most teacher education programs; it consists of only the short time spent student teaching. This student teaching experience, which was characterized consistently as “the most valuable aspect of my education program” by new teachers, lasts a term or less for 76 percent of teacher education alumni” (p. 39)

This fact is lamentable, especially given the number of studies indicating that experienced and newly certified teachers alike see clinical experience (including student

teaching) as a powerful—sometimes the single most powerful—component of teacher preparation (Wilson, Floden, and Mundy, 2001). Unfortunately, when clinical experience and student teaching are core components of a teacher preparation program, students often report that they receive limited feedback from faculty mentors regarding their progress as student teachers (Levine, 2006). Along these lines, the American Federation of Teachers report (2000) lists, as one of its primary findings, that clinical experiences are often too brief and do not require students to take sufficient responsibility for instruction. Speaking directly to this issue, Brouwer and Korthagen (2005) note that enhancing teacher preparation requires teacher educators (faculty) to have specific expertise in the field of mentoring and supervision, which seldom is the case.

1.4 Discussion

This literature review has provided an overview of the major issues that researchers have examined with regard to the effectiveness of teacher preparation programs and structural characteristics of these programs. Based on the evidence discussed, there are a number of core principles linked to effective teacher preparation and recommended for incorporation into teacher preparation programs. For a more exhaustive discussion of recommendations, readers are referred to such works as: *Educating School Teachers* (Levine, 2006), *Building a Profession: Strengthening Teacher Preparation and Induction* (American Federation of Teachers, 2000), and *Educating Teachers for the Next Century: Rethinking Practice and Policy* (Darling-Hammond, 1999).

1. Teacher preparation programs should devote as much attention to pedagogical knowledge as content knowledge. Knowing how to effectively *convey* content knowledge is as important as possessing content knowledge. Thus, an effective teacher preparation program will have, at its core, methodology courses on teaching and student learning in addition to substantive content courses.
2. Teacher preparation programs should be extended to a five-year structure. This would allow students to obtain a major in a specific content area and to receive the needed pedagogical training on student learning and curriculum development to become effective teachers.
3. Teacher preparation programs should expose students to the classroom environment during the first or second year and continue to do so until the end of an education program that culminates with a full year of supervised teaching. Classroom participation during the first three to four years of a program may include tutoring students and classroom observation, to name a couple.
4. Teacher preparation programs should hire faculty members who are skilled and trained to mentor students engaged in supervised or independent teaching to provide timely and useful feedback on instructional techniques and classroom management.

CHAPTER 2: EXEMPLARY TEACHER PREPARATION PROGRAMS

2.1 Introduction

Having completed a review of the literature pertaining to the effectiveness of teacher preparation programs, the next step was to identify a number of education programs that embodied the characteristics highlighted in the review. Fortunately, several of the education researchers who identified the characteristics that define a successful teacher preparation program conducted evaluations that identified a number of programs that were viewed as exemplary. In particular, the combined work of Darling-Hammond (2006) and Levine (2006) provides a list of nine teacher preparation programs that are nationally recognized for their successes.¹ A listing of these programs is provided in Table 2.1.

Table 2.1
Exemplary Teacher preparation Programs (Darling-Hammond, 2006; Levine, 2006)

Institution	School/Department Name	Program Name	Location
Alverno College	School of Education	Elementary Education Program	Milwaukee, Wisconsin
Bank Street College	Graduate School of Education	Childhood and Elementary and Early Adolescence Programs	New York, New York
Trinity University	Department of Education	Teacher Education Program	San Antonio, Texas
University of California – Berkeley	Graduate School of Education	Developmental Teacher Education Program	Berkeley, California
University of Southern Maine	College of Education and Human Development	Extended Teacher Education Program	Portland, Maine
University of Virginia	Curry School of Education	BA/MT Program in Secondary Education	Charlottesville, Virginia
Wheelock College	School of Education and Child Life	Elementary Education Program	Boston, Massachusetts
Emporia State University	Department of Early Childhood & Elementary Teacher Education	Elementary Education	Emporia, Kansas
Stanford University	School of Education	Stanford Teacher Education Program	Stanford, California

¹ A total of eleven programs were identified by Darling-Hammond (2006) and Levine (2006). However, both scholars reviewed two of the same programs, reducing the list to a total of nine different programs.

What is particularly interesting about the list of programs identified by Darling-Hammond (2006) and Levine (2006) is the diversity of the programs. The programs include both public and private institutions; both undergraduate and graduate programs, four-year bachelor degree programs, five-year programs that combine a bachelor's degree with a master's degree, and programs with stand alone master's degrees; and some of the programs prepare graduates to teach elementary school, while others prepare graduates to teach secondary school students.

2.2 Program Characteristics

In their study of teacher preparation programs, Howey and Zimpher (1989) found that strong programs "...have one or more frameworks grounded in theory and research as well as practice: frameworks that explicate, justify, and build consensus around such fundamental conceptions as the role of the teacher, the nature of teaching and learning, and the mission of the school..." (Darling-Hammond & Bransford, 2005; Labaree, 2004). Darling-Hammond (2006) discussed some of the same features in her report highlighting common characteristics found among the seven exemplary teacher preparation programs she reviewed. The shared features include the following:

- A strong, shared vision of good teaching that is consistent in courses and clinical work.
- Well-defined standards of practice and performance that are used to guide the design and assessment of coursework and clinical work.
- A common core curriculum grounded in substantial knowledge of child and adolescent development, learning, and subject matter pedagogy, taught in the context of practice.
- Extended clinical experiences (at least thirty weeks), that reinforce and reflect the program's vision of good teaching, are interwoven with coursework and are carefully mentored.
- Strong relationships, based on common knowledge and beliefs, between university and school-based faculty.
- Extensive use of case study methods, teacher research, performance assessments, and portfolio examinations that relate teachers' learning to classroom practice.

2.3 Data Collection

Data on each of the nine programs highlighted by Darling-Hammond (2006) and Levine (2006) was collected to identify the commonalities as described in the literature. In particular, information was collected pertaining to (1) whether content coursework was completed within the education department of a given program or if such coursework was completed in other departments, (2) the length of a program, (3) the program type (elementary, secondary, or both), (4) the GPA requirement to graduate from a program, (5) the number of hours of student teaching required for graduation, (6) the number of education credits required, and (7) the number of content credits required.

Briefly, the information collected on the nine exemplary programs can be summarized. Appendix 1 provides the full table of information on each the exemplary programs:

- The minimum GPA required to graduate from the programs in which the information was available is a 2.75 GPA, with a 3.00 GPA required for many of the programs.
- Each of the nine programs require an extended period of student teaching, with the norm being a full year of full-time or part-time teaching in the classroom setting.
- Several of the programs require students to pass a series of annual assessments or tests in order to progress through the program, such as the Praxis I and Praxis II tests. Other assessments included the review of teaching portfolios.
- As best as can be ascertained, each of the *undergraduate programs* are structured such that the *substantive (content) courses are taught outside of the department or college of education*, while the *pedagogical classes are taught within the college or department of education*.
- Each graduate program is composed solely of pedagogical classes taught within the college of education and supervised teaching, with no additional content courses required.

CHAPTER 3: FLORIDA TEACHER PREPARATION PROGRAMS

3.1 Introduction

Having collected information on the exemplary teacher preparation programs highlighted in the literature, the next step was to collect information on the teacher preparation programs offered in the state of Florida. This was done for two reasons: first, it provides an overview of the diversity of teacher preparation programs offered in the state; and second, the information collected on the Florida teacher preparation programs can be compared and contrasted to the information collected pertaining to the exemplary teacher education programs. This comparison provides a preliminary identification the programs in Florida that embody the characteristics that are similar with those found in the exemplary programs highlighted by the research community. The current chapter provides an overview of Florida's programs, while the chapter that follows discusses the similarities and differences between the exemplary programs and Florida's programs.

3.2 Data Collection

Information on the education programs offered in the state of Florida was gathered primarily by visiting program websites. Where information was not available via the websites, efforts were made to contact the programs either through e-mail or by phone. Table 3.1 provides a listing of the approved teacher preparation institutions across the state.

**Table 3.1
Florida's Approved Teacher preparation Institutions**

Name	Location
Barry University	Miami
Bethune-Cookman College	Daytona Beach
Chipola College	Marianna
Clearwater Christian College	Clearwater
Edward Waters College	Jacksonville
Flagler College	St. Augustine
Florida A&M University	Tallahassee
Florida Atlantic University	Boca Raton
Florida College	Temple Terrace
Florida Gulf Coast University	Ft. Myers
Florida Institute of Technology	Melbourne
Florida International University	Miami
Florida Memorial University	Miami
Florida Southern College	Lakeland
Florida State University	Tallahassee
Jacksonville University	Jacksonville
Lynn University	Boca Raton
Miami-Dade College	Miami
Nova Southeastern University	Miami
Palm Beach Atlantic University	West Palm Beach

Name	Location
Rollins College	Winter Park
Saint Leo University	St. Leo
St. Petersburg College	St. Petersburg
Southeastern University	Lakeland
Stetson University	DeLand
University of Central Florida	Orlando
University of Florida	Gainesville
University of Miami	Miami
University of North Florida	Jacksonville
University of South Florida	Tampa
University of Tampa	Tampa
University of West Florida	Pensacola
Warner Southern College	Lake Wales

The following information was collected on each of the Florida teacher preparation programs: (1) institutional setting (public/private), (2) degrees offered (B.S., B.A., M.A.T., M.Ed., Ph.D., etc.), (3) the degree programs offered (specializations such as math, biology, English, etc.), (4) the required GPA to complete the program, (5) whether or not student teaching is required, (6) the number of hours/credit hours of internship/student teaching required, (7) the number of education credits required, and (8) the number of content credits required. Where available, information was collected on elementary and secondary teacher preparation programs separately.

Appendix two provides the complete table of information collected on the Florida teacher preparation programs. The table reveals that the programs are diverse across a number of characteristics. While some programs offer both undergraduate and graduate degrees, others only offer undergraduate degrees. With regard to the required GPA to complete a program, a 2.5 GPA appears to be the typical requirement for the undergraduate programs, although some programs only require a 2.0 GPA. For the graduate degree programs a 3.0 GPA is typically required. Of particular interest, each program that was profiled requires students to teach in some capacity. However, there is a wide range of requirements with regard to student teaching/internship experience. For example, the University of South Florida requires students of the secondary teacher preparation programs to complete a 15 week full-time internship, while the University of Tampa only requires 120 hours of “field experience.”

The diversity across schools can also be seen in the number of pedagogy and content credits required to graduate. Of course, some of these differences may be attributable to how credit hours are defined according to the length of semesters, but the range in the number of credits hours is broad enough to suggest that some programs require students to take many more education classes than other programs. The same can be suggested for the distribution of content credits required.

CHAPTER FOUR: COMPARING TEACHER PREPARATION PROGRAMS

4.1 Introduction

Thus far, this report has (1) reviewed the available research on teacher preparation programs; (2) presented and discussed information on nine exemplary teacher preparation programs identified by leading education researchers; and (3) presented and summarized information on teacher preparation programs within the state of Florida. The purpose of the current chapter is two-fold. First, it compares the exemplary programs to programs identified in the *U.S. News & World Report* rankings in order to establish whether or not there is any congruency between the opinions of the research community and formal ranking systems. Second, it provides a comparison of the exemplary programs and the programs offered in Florida.

4.2 Comparison of Exemplary Programs and Published Rankings

Given that the list of the nine exemplary programs identified by Darling-Hammond (2006) and Levine (2006) includes both undergraduate and graduate teacher preparation programs, it would be ideal to be able to examine the published rankings of both types of programs. Unfortunately, the *U.S. News & World Report* rankings only provide information on the top ranked *graduate* programs in education. As such, the comparability of the exemplary programs identified by the research community and those ranked by *U.S. News & World Report* is limited to graduate programs.

The top ten graduate Colleges of Education were identified from both the 2008 and 2010 issues of *U.S. News & World Report* publications and are provided in Tables 4.1 and 4.2. These rankings can be compared to the exemplary graduate programs highlighted by Darling-Hammond (2006) and Levine (2006), which included the programs at Stanford University, the University of Southern Maine, The University of California at Berkeley, and Bank Street College.

Comparing these four programs to the *U.S. News & World Report* 2008 and 2010 editions reveals a certain degree of agreement between the research community and the formally published rankings. Specifically, the programs at Stanford University and the University of California at Berkeley appear on both the 2008 and 2010 top 10 graduate programs of education. At the same time, however, the Bank Street College and the University of Southern Maine programs do not appear as top ranked programs, despite the fact that educational researchers viewed them as exemplary in the literature.

Table 4.1
***U.S. News & World Report* Top Graduate Schools of Education, 2008**

Number	Institution Name	School/Department Name	Location (state)
1	Columbia University	Teachers College	New York
2	Stanford University	School of Education	California
3	Harvard University	Graduate School of Education	Massachusetts
4	Vanderbilt University	Peabody College of Education	Tennessee
5	University of California – Los Angeles	Graduate School of Education and Information Studies	California
6	University of Michigan	School of Education	Michigan
7	Northwestern University	School of Education and Social Policy	Illinois
8	University of California – Berkeley	Graduate School of Education	California
9	University of Washington	College of Education	Washington
10	University of Wisconsin – Madison	School of Education	Wisconsin

Table 4.2
***U.S. News & World Report* Top Graduate Schools of Education, 2010**

Number	Institution Name	School/Department Name	Location (state)
1	Vanderbilt University	Peabody College of Education	Tennessee
2	Stanford University	School of Education	California
3	Columbia University	Teachers College	New York
4	University of Oregon	College of Education	Oregon
5	University of California – Los Angeles	Graduate School of Education and Information Studies	California
6	Harvard University	Graduate School of Education	Massachusetts
7	John Hopkins University	School of Education	Maryland
8	Northwestern University	School of Education and Social Policy	Illinois
9	University of California – Berkeley	Graduate School of Education	California
10	University of Texas – Austin	College of Education	Texas

One shortcoming of relying on formal rankings such as those reported by *U.S. News & World Report* is that institutional prestige tends to have a significant effect on rankings. A number of critics of the rankings systems have viewed the rankings as a function of schools' reputation and not necessarily a function of the quality of an individual program. Furthermore, although an examination of the top graduate schools of education is informative, it is also limited due to the fact that, nationally, only 50% of public elementary and secondary school teachers have earned more than a bachelor's

degree.² Given this fact, it would seem appropriate to devote as much or more attention to the characteristics of undergraduate teacher preparation programs. Unfortunately, the *U.S. News & World Report* does not rank undergraduate programs of education. Appendix three provides a detailed discussion of educational ranking systems and provides suggestions as to how such rankings could be adjusted to limit the influence of institutional prestige.

4.3 Comparison of Exemplary Programs and Florida Programs

The final step was to compare data collected on the exemplary programs to the data collected on the various teacher preparation programs offered within Florida. Although a quantitative comparison could not be completed, a few observations can be made regarding trend differences between the exemplary programs and many of the programs in Florida.

First, the GPA requirement for the exemplary programs appears to be higher than the requirement for the majority of the Florida programs. While the typical GPA requirement for the Florida programs is a 2.5 GPA, the requirement at the exemplary programs is, in most cases, a 3.0. Even when the list of exemplary programs is limited to undergraduate programs, the GPA requirement tends to be higher than many of the GPA requirements within Florida. Thus, students graduating from programs with higher GPA requirements may be more effective at teaching simply because they have put more effort into learning how to teach.

Second, several of the exemplary programs require students to spend a full year teaching in some capacity, while many of the Florida programs appear to require less of their students. Moreover, many of the exemplary programs require students to participate in activities such as mentoring and classroom observation as early as their sophomore year, providing them even more exposure to the setting.

Third, there appears to be a substantial amount of overlap between the number of pedagogy and content credits required in the exemplary programs and the Florida programs. Of course, what cannot be ascertained with a simple numerical comparison of credit hours is the quality of the courses being taught and the specific content being learned. What would perhaps be particularly informative is going beyond a simple comparison on the number of credits required and examining the specific classes that are required, and how they might differ across programs.

² National Center for Education Statistics (2008). Digest of Education Statistics (Online), Table 67.

SUMMARY

This report has provided an overview of some of the major issues that have received attention with regard to the quality of teacher preparation programs. This was accomplished through a number of activities, including a literature review; the collection of information on exemplary teacher preparation programs identified in the literature; collection of information on many of Florida's approved teacher preparation programs; and the collection of information on educational program rankings.

The literature review brought to light the fact that research in the area of teacher preparation program effectiveness appears to be in its infancy. However, an emerging body of work from a select number of scholars highlighted some of the key aspects that may discriminate between mediocre teacher preparation programs and exemplary teacher preparation programs. This largely guided the remaining activities detailed in the report.

A comparison of teacher preparation programs provided preliminary evidence on the factors identified in the literature that may determine the effectiveness of graduates as they enter into classrooms across the country. Specifically, the exemplary teacher preparation programs tended to have higher GPA requirements than many of the Florida programs. Likewise, the exemplary programs also tended to have lengthier periods of student teaching. Less conclusive evidence was found regarding the comparison of the number of pedagogy and content courses required at exemplary programs and Florida teacher preparation programs. This area of inquiry could benefit from a content analysis that compares the specific classes that are required to see if the type of content and pedagogical classes required at programs varies significantly. In depth case studies of particular programs within the state of Florida could also be compared to the case studies carried out by Darling-Hammond (2006) and Levine (2006) to identify additional similarities and differences among programs.

Comparisons were also made between the exemplary graduate programs highlighted in the research and formally ranked graduate programs. This comparison revealed that only two of the schools listed in the *U.S. News & World Report* top 10 graduate schools of education rankings were deemed to be exemplary by researchers. This suggests that the research community has a different methodology for evaluating top programs that is different from the methodologies employed by organizations that publish formal rankings.

In summary, it seems clear that significant differences do exist between teacher preparation programs, and that the research community has differing opinions on the make-up of effective programs relative to ranking organizations. What remains lacking in this line of inquiry, however, is a systematic analysis that follows graduates of programs and tracks outcomes, such as achievement by students in the classrooms of new graduates. Until a standard set of outcome measures can be collected and linked to the teacher preparation program from which elementary and secondary school teachers graduated, determining the effectiveness of programs will remain elusive.

APPENDIX ONE: EXEMPLARY TEACHER PREPARATION PROGRAMS

Exemplary Education Programs											
Institution	Public/Private	Structure	Degree	Program Type	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required	Yearly Assessments	NCATE
Stanford University	Private	N/A - all classes are pedagogy	M.A. (1 year)	Elementary Teacher Education; Secondary Teacher Education	3.0	YES	20/WK.	45	0	QUARTERLY ASSESSMENTS	YES
Emporia State University	Public	Content courses taught outside of the College of Education	B.A (4 years)	Elementary Teacher Education; Middle/Secondary Teacher Education	2.5 general; 2.75 EDU classes	YES	N/A; Full Year spent in a Professional Development School (PDS) Teaching	~75	60	YES	YES
Wheelock College	Private	Content courses taught outside of the College of Education	B.A.; B.S. (4 Years)	Elementary Education	No GPA requirement	YES	27/WK.	~40	90	NO	YES
University of Virginia	Public	Content courses taught outside of the College of Education	B.A./M.T (5 years)	Elementary Teacher Program, Secondary Teacher Program	2.75; 3.0 for major classes	YES	N/A; Student Teach Full-time during fifth year	~50	102	YES	YES
University of Southern Maine	Public	N/A - all classes are pedagogy	M.A. (9 months)	Elementary Teacher Program, Secondary Teacher Program	3.0	YES	~15/WK.	33	0	Praxis II	YES
UC - Berkeley	Public	N/A - all classes are pedagogy	M.A. (2 years)	Elementary Teacher Program		YES	N/A; Student engage in supervised teaching each of the four semesters	~60	0		NO
Trinity University	Private	Content courses taught outside of the College of Education	B.A./M.T. (5-years)	Elementary and Secondary Teacher Program	3.0	YES	N/A; Students spend the fifth year teaching in a professional development school (PDS)	~60	~80		YES
Bank Street College	Private	N/A; all classes are pedagogy	M.S. (2 years)	Childhood General Education Program	3.0	YES	N/A; Students spend the fifth year teaching in the field	45	0	No	NO
Alverno College	Private	Content courses taught outside of the College of Education	B.A. (4 years)	Elementary and Middle School Teacher Education	N/A, pass/fail system	YES	N/A; Extensive fieldwork required in addition to student teaching			YES	YES

APPENDIX TWO: FLORIDA TEACHER PREPARATION PROGRAMS

Elementary Education Programs							
Institution	Public/ Private	Degree(s) offered	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Barry University	Private	B.S.	2.5	YES		75	45 (general university requirements)
Bethune Cookman University	Private	B.S.	2.5	YES	12 credit hours	42	79
Chipola College	Public	A.A., B.S.	2.5	YES	9 Credit Hours Senior Year	69 hours	~56 hours
Clearwater Christian College	Private	B.S.	2.5	YES	12 credit hours	39 hours	34 hours
Edward Waters College	Private		2.0				
Flagler College	Private	B.A.	2.5	YES	12 credit hours	>40	27-30
Florida A & M University	Public	B.S., M.Ed	2.5	YES	14 week minimum	undergraduate-29 graduate- 30	47
Florida Atlantic University	Public	B.S.	2.5	YES	9	undergraduate-30	undergraduate-33 (not specific to a single content area)
Florida College	Private	B.S.	2.5	YES	11 credit hours	62	68
Florida Gulf Coast University	Public	B.A., M.Ed.	2.5	YES	9 Credit Hours Senior Year	undergraduate-~60 graduate- 33	undergraduate ~60

Elementary Education Programs							
Institution	Public/ Private	Degree(s) offered	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Florida Institute of Technology							
Florida International University	Public	B.S.	2.5	YES	525 hours	69	48
Florida Memorial University	Private	B.S., M.S.	2.5	YES	150 clock hours	undergraduate- 63 masters- 36	undergraduate- 62
Florida Southern College	Private	B.S., MAT	B.S.- 2.5 MAT- 3.0	YES	B.S.- 9-12 hours MAT- 6 semester hours	undergraduate- 78 masters- 39	30 (general university requirements)
Florida State University	Public	B.S., M.S.	2.5	YES	does not specify number of hours		
Jacksonville University	Private	B.S., M.Ed., & Education Minors	2.5	YES- Duval county public schools (undergraduate- observation only/ graduate- some teaching)	(doesn't specify hours. observation is required each semester and teaching only in the final year)	undergraduate- 82 masters 30	undergraduate- 40 (not specific to a single content area)
Lynn University	Private	B.S., M.Ed., Ed.D	2.55	YES	9	undergraduate- 56 graduate- 36	undergraduate- 60 (university core course requirements)
Miami-Dade College	Public						
Nova Southeastern University	Private	B.S., M.S.	B.S.- 2.5 M.S.- 3.0	YES	B.S. -10 clinical hours plus 14 week full time internship M.S. -12 weeks	undergraduate- 22 graduate- 40	undergraduate- 51

Elementary Education Programs							
Institution	Public/ Private	Degree(s) offered	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Palm Beach Atlantic University	Private	B.S.	2.5	YES	does not specify number of hours	57	undergraduate 16 (not specific to a single content area) and a 21 hour minor is required
Rollins College	Private	B.S., M.A.T., M.Ed..	2.5	YES	15 weeks, full-time	undergraduate- 60 graduate- 58	undergraduate 60 (general university requirements)
Saint Leo University	Private	undergraduate degree only (does not specify BS or BA)	2.5	YES	6 hours/week	63	60 (general university requirements)
Southeastern University	Private	B.S., M.Ed.	2.5	YES	During final semester (does not specify number of hours)	undergraduate- 72 graduate- 36	undergraduate 60 (general university requirements)
St. Petersburg College	Private	B.S.	2.5	YES	220 clock hours plus 15 week internship in Elementary Education and Reading (12 credit hours)	40	29
Stetson University	Private	B.A. and B.S.	2.5	YES	9	undergraduate- 63	undergraduate 32 (general university requirements)
University of Central Florida	Public	B.A., B.S., M.A., M.S., M.Ed., Ed.D., Ph.D.	undergraduate- 2.75, graduate- 3.0	YES	undergraduate- 12 hrs Graduate- 6 credit hours plus 80 clock hours before internship	B.A. - 69; B.S. 57; M.A. - 24; M.S.- 12; M.Ed. - 18; PhD - 48	B.A. - 51; B.S. -63; M.A. - 21; M.S. - 24; M.Ed - 12; PhD - 51

Elementary Education Programs							
Institution	Public/Private	Degree(s) offered	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
University of Florida	Public	B.A, M.A	3	YES	B.A - half-time - 16 hrs a week for a semester, M.A - full-time		
University of Miami	Private	B.A. and B.S. (must also choose a major in the College of Arts and Sciences), MSEd	2.5	YES	All 200 level courses require 15 hours per week in classroom. As well as 15 weeks of full time teaching in final semester	undergraduate-54 masters-30	students must choose and complete a primary major outside of the COE
University of North Florida	Public	B.A. & B.S.	2.5	YES	12	undergraduate-34	undergraduate-47 (not specific to a single content area)
University of South Florida	Public	B.S., MAT, PhD	2.5	YES	15 weeks, full-time	undergraduate-33 graduate-30	41 (specialization hours)
University of South Florida-St. Petersburg	Public	B.A. and M.A.	2.5	YES	During final semester (does not specify number of hours)	undergraduate-73	undergraduate-47 (general university requirements)
University of Tampa	Private	B.S., MAT, Med	2.5	YES	120 hours minimum field experience	B.S. - 19	B.S. - 56
University of West Florida	Public	B.A., M.A.T, Ed.D	2.5	YES	11-12 hours	undergraduate-65-66 graduate-30	35
Warner Southern College	Private	B.S., MAEd	2.5	YES	Final semester of senior year	undergraduate-40 graduate-30-33	34

Secondary Education Programs

Institution	Public/Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Barry University	Private							
Bethune Cookman University	Private	B.S., B.A.	English, Biology, Business, Music, Social Science	2.5	YES	12 credit hours	42	79
Chipola College	Public	B.S.	Secondary Math, Middle Math, Middle Social Science, Secondary Biology	2.5	YES	10 credit hours senior year	Middle Math - 51; Middle Science - 55; Secondary Math - 50; Secondary Biology - 51	Middle Math - 69; Middle Science - 66; Secondary Math - 70; Secondary Biology - 69
Clearwater Christian College	Private	B.S.	Biology, English, Math, Social Studies	2.5	YES	12 credit hours	Biology- 47, English- 44, Math- 44, Music- 44, Physical Education- 41, Social Studies- 44	Biology - 33, English - 33, Math - 33, Music - 36, Physical Education - 35, Social Studies - 36
Edward Waters College	Private							
Flagler College	Private	B.A.	Drama, English, Social Science	2.5	YES	12 credit hours	>40	27-30
Florida A & M University	Public	B.S., M.Ed	B.S.- English, Science, Social Science, Business, Physical Education, Technology education M.Ed biology, history, chemistry, mathematics,	2.5	YES	Roughly 12 hours per week with a 14 week minimum	undergraduate- ~37 masters- ~30	~47

Secondary Education Programs

Institution	Public/ Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Florida Atlantic University	Public	B.S.	English, Math, Music, Science (Biology, Chemistry, Physics), Social Science	2.5	YES		English- 30 Math- 27 Music- 30 Biology- 33 Chemistry- 33 Physics- 33 Social Science- 27	English- 39 Math- 48 Biology- 51-53 Chemistry- 51 Physics- 46-47 Social Science- 48-49
Florida College	Private							
Florida Gulf Coast University	Public	B.A.	Biology, Mathematics, Social Science	2.5	YES	9 credit hours senior year	Biology ~ 40; Math ~ 40; Social Science ~ 40	Biology ~ 80; Math ~ 80; Social Science ~40
Florida Institute of Technology	Private	B.S., MAT, MS, EdS, Ed.D, Ph.D	Computer, Environmental, Mathematics and Science (Biology, Chemistry, Environmental Science, General Science, Oceanography/Earth Science, Physics) Education	2.5	YES	810 hours of clinical/field experience spread across the four years	undergraduate- 55 graduate- 30	undergraduate- 68
Florida International University	Public	B.S., M.A.T.	Art, Biology, Chemistry, English, Math, Foreign Language, Physics, Social Studies (B.S); Art, English, Foreign Language, Science, Math, Social Studies (M.A)	2.5	YES	does not specify number of hours	Art - 36, Biology - 33, Chemistry - 33, English - 36, Math -36, Foreign Language - 36, Physics - 33, Social Studies - 33 (B.S); Art, English, Foreign Language, Science, Math, Social Studies (M.A)	Art - 54, Biology - 45, Chemistry - 45, English - 30, Math -41, Foreign Language -30, Physics - 52, Social Studies - 57 (B.S); Art, English, Foreign Language, Science, Math, Social Studies (M.A)

Secondary Education Programs

Institution	Public/Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Florida Memorial University	Private		Biology, English, Math, Music, Physical Education	2.5	YES	150 clock hours	English - 39, Math - 36, Science - 39, Music Education -33, Physical Education -43, Biology Education - 36	English - 33, Math -30, Science - 46, Music Education -51, Physical Education -38, Biology Education -32
Florida Southern College	Private	B.S., MAT	Physical Education, Music Education	B.S.- 2.5 MAT- 3.0	YES	B.S.- 9-12 hours MAT- 6 semester hours	undergraduate- 78 masters- 39	30 (general university requirements)
Florida State University	Public	B.S., M.S.	English, Math, Language Arts, Social Science, Science	2.5	YES	does not specify number of hours	English- 38 Science- 21	English- 21 Science- 41-50
Jacksonville University	Private	B.S., M.Ed., & Education Minor	Physical Education (K-12)	2.5	YES- Duval county public schools (undergraduate- observation only/ graduate-some teaching)	(doesn't specify hours. observation is required each semester and teaching only in the final year)	undergraduate- 25 masters- 30	undergraduate- 96 (40 hours specific to PE)
Lynn University	Private	B.S., M.Ed., Ed.D	Exeptional Student Education	2.55	YES	9	undergraduate- 52	undergraduate- 60 (university core requirements, not specific to a content area)
Miami-Dade College	Public	B.S.	Exeptional Student Education, Physics, Chemistry, Earth/Space, Biology, Math	2.5	YES	12	Exeptional Student Education- 39 Physics- 39 Chemistry- 39 Biology- 57 Math-39	Exeptional Student Education- 33 Physics- 33 Chemistry- 37 Biology- 39 Math-39

Secondary Education Programs

Institution	Public/ Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Nova Southeastern University	Private	B.S. & M.S.	Exceptional Student Education, Computer Science Education, English, Mathematics, Science (Biology), Social Studies	B.S. - 2.5; M.S. - 3.0	YES	B.S. - 10 clinical hours plus 14 weeks of an internship full time; M.S. - 12-week	Exceptional Student Education - 27, Computer Science Education, English, Mathematics - 27, Science (Biology) - 27, Social Studies	Exceptional Student Education -60, Computer Science Education, English, Mathematics -53, Science (Biology) - 56, Social Studies
Palm Beach Atlantic University	Private	B.S.	Art, Biology, English, Math, Music, Execeptional Student Education	2.5	YES	(does not specify number of hours)	29 classes (does not say how many hours for each class)	30 (not specific to a single content area)
Rollins College	Private	B.S.	Math, Chemistry, Biology, Language, Physics, English, Social Science, Music, Theatre	2.5	YES	15 weeks, full- time		
Saint Leo University	Private	B.A.	Middle school grades: English, Math, Science, Social Science Secondary education minor	2.5	YES	9	English- 43 Mathematics- 43 Science- 43 Social Science- 43 Minor- 18	English- 27 Mathematics- 24 Science- 31 Social Science- 27

Secondary Education Programs

Institution	Public/Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
Southeastern University	Private	B.S.	English, Science, Math, Social Science, Biology, Music	2.5	YES	Does not specify hours per week, but 12 credit hours are required	Middle Science - 42; Middle English - 45; Middle Math - 42; Middle Social Science - 42; Secondary Biology - 42; Secondary English - 45; Secondary Math - 42; Secondary Social Science - 42; Music Education - 43	Middle Science - 89; Middle English - 81; Middle Math - 82; Middle Social Science - 90; Secondary Biology - 83; Secondary English - 84; Secondary Math - 83; Secondary Social Science - 90; Music Education - 119
St. Petersburg College	Private	B.S.	Math (secondary and middle), Social Science (secondary and middle), Biology	2.5	YES	Math: 150 hours ; Science/Biology: 155 hours ; Business Technology: 125 hours ; Middle Grades General Science: 150 hours; Middle Grades Math: 150 hours (In addition all students must complete an internship of 35 hours per week for 15 weeks)	39	Math: 48; Science/Biology: 55; Business Technology: 52; Middle Grades General Science: 45; Middle Grades Math: 45
Stetson University	Private	B.A. & B.S.	Biology, English, Modern Language, Math, Music, Social Science	2.5	YES	9	undergraduate- 39	Biology- 3 English- 3 Modern Language- 3 Math- 3 Music- 9 Social Science- 3

Secondary Education Programs

Institution	Public/ Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
University of Central Florida	Public	B.S., M.Ed., Ed.D	B.S. - Art, English Language Arts, French, Spanish, Math, Biology, Chemistry, Physics, Social Science,	2.5	YES	12 credit hours	B.S. - Art - 39; English Language Arts - 51; French - 48; Spanish - 48; Biology - 46; Chemistry - 46; Physics - 46; Social Science - 54;	B.S. - Art - 51; English Language Arts - 33; French - 36; Spanish - 36; Biology - 37; Chemistry - 37; Physics 37; Social Science - 30;
University of Florida	Public	B.A., MAE, M.Ed., Ph.D., Ed.D., Ed.S (bachelor's degree from the College of Liberal Arts and Sciences or the College of Agricultural and Life Sciences, graduate degrees from the College of Education.)	English, Social Science, Biology, Chemistry, Physics	graduate- 3.0	YES		masters- 36	
University of Miami	Private	B.A., B.S., M.S.Ed, Phd (must choose a teachable subject area major and enroll through the College of Arts and Sciences.)	Biology, Chemistry, Math, Social Science	2.5	YES	All 200 level courses require 15 hours per week in classroom. As well as 15 weeks of full time teaching in final semester	undergraduate- 54 masters- 30	students must choose and complete a primary major outside of the COE

Secondary Education Programs

Institution	Public/Private	Degree(s) offered	Degree Programs	GPA for degree completion	Student teaching requirement	Hours of classroom experience required	Education credits required	Content credits required
University of North Florida	Public	B.A. & B.S.	Art Education, Middle School Math/Science, English, Math, Biology, Chemistry, Physics, Social Studies, Physical Education, ESE, Deaf Education, Sign Language Interpreting	2.5	YES	12	Art Education- 37 Middle School Math/Science- 37 English- 34 Math- 40 Biology- 37 Chemistry- 37 Physics- 37 Social Studies- 37 Physical Education- 37 ESE- 34 Deaf Studies- 22 Sign Language Interpreting- 34	Art Education- 52 Middle School Math/Science- 54 English- 51 Math- 47 Biology- 56 Chemistry- 56 Physics- 57 Social Studies- 47 Physical Education- 48 ESE- 41 Deaf Studies- 52 Sign Language Interpreting- 48
University of South Florida	Public	B.A., MAT	English, Math, Science, Social Science, Foreign Language	3.0	YES	15 weeks, full-time	undergraduate- ~20 graduate- 30	undergraduate- 33-35
University of South Florida-St. Petersburg	Public							
University of Tampa	Private	B.S., MAT, Med	English, Math, Biology, Social Science	2.5	YES	120 hours minimum field experience	B.S. all programs - 39	English -32, Math -40, Biology - 40, Social Science -39
University of West Florida	Public	B.A., M.A.T., Ed.D	Middle level education	2.5	YES	11-12 hours	undergraduate- 48-60 graduate- 30	35
Warner Southern College	Private	B.S., MAEd	English, Science, Social Science, Exceptional Student Education	2.5	YES	Final semester of senior year	40	31

APPENDIX THREE: COLLEGE AND UNIVERSITY RANKINGS METHODOLOGY

Introduction

Countless groups have produced varied rankings of colleges, universities, and academic programs over the years. The term “ranking”, as used here, refers to a list of colleges or universities that are ordered according to their overall score on a formula created by *U.S. News & World Report* or respective parties responsible for varied ranking methodologies (Clarke 2002). The groups responsible for the rankings include for profit and non-profit groups, academic institutions, and state government agencies. In the 2005 edition of *Educational Rankings Annual*, Hattendorf (2005) lists rankings on a wide variety of topics and from a wide variety of sources. As Hattendorf mentions in the introduction (2005, pg. x), “...compiling educational rankings is a complex process because they attempt to measure quality.” Typically, educational rankings are based on criteria such as peer perceptions or evaluations, faculty productivity, admissions selectivity, application rates, test scores, etc. (Hattendorf, 2005).

In the following sections, discussions on various college and university ranking systems, as well as the popular *U.S. News & World Report* yearly ranking of educational institutions, are presented. After this discussion, criticisms aimed at these systems are discussed. As Clarke (2002) points out, “There is no universally agreed upon set of information for creating academic quality rankings. Thus, various ranking efforts use indicators that differ in whole or in part from those used by others even when attempting to rank the same schools.” This inconsistency is a typical criticism of ranking methodologies. At the end of this section, a discussion on possible ways to improve ranking systems is provided.

Types of Ranking Methodologies

According to the literature, there are at least four different forms of educational ranking methodologies: reputation rankings, citation analysis, faculty productivity, and statistical rankings. The following provides a brief synopsis of each type of methodology as provided by Clarke (2002):

- **Reputation rankings** are derived from the opinions of college and university presidents, deans, department chairpersons, senior scholars, and others who are in a position to know who are the most influential and prolific scholars in a field or which are the highest quality academic institutions. These studies are based on the subjective opinions of select groups of people.
- **Citation analysis** is a method of assessing the influence and intellectual importance of research over time, and thus, of assessing individual departments

and institutions (i.e., the more citations the higher the rank order of a department when it is compared with departments from other institutions). Unfortunately, citation indexes do not distinguish between good, neutral, or bad citations.

- **Faculty productivity** is measured by counting the number of publications an individual scholar has published during a particular period. The more publications faculty members have, the higher the rankings of themselves, their departments, and their disciplines. A constant criticism with this approach is found in the age old argument of “quantity vs. quality.”
- **Statistical rankings** are numerical lists and rankings derived from arbitrary information such as the colleges with the highest endowments, the largest library facilities, the most selective admissions rates, etc. The major deficiency with this type of assessment technique is that too much importance or the wrong significance will be attached to them in measuring the quality of education (Hattendorf, 1996).

Rankings by Other Agencies/Authorities

According to Bollag (2006), an international group of educators, higher-education experts, and publishers have come up with a set of principles for ranking colleges and universities. The 16 principles of good practice were a response to the explosion of college rankings in many countries since *U.S. News & World Report* published their first listings. The 16 principles (named the “Berlin Principles on Ranking of Higher Education Institutions”) are meant to serve as voluntary guidelines for groups that produce rankings, as well as to improve what many academic leaders see as the superficial nature of rankings. Chief among the principles are recommendations that rankings should:

- Recognize the diversity of institutions and take the different missions and goals of institutions into account;
- Be transparent regarding the methodology used for creating the ranking components, such as retention and graduation rates and entrance-examination scores, whenever possible; and
- Offer consumers a choice in how rankings are displayed, such as by allowing them to determine how factors are weighed on interactive web sites.

In Canada, a news magazine titled *Maclean’s* ranks Canadian universities on an annual basis. The criteria used by the magazine are based on factors such as characteristics of the student body, classes, faculty, finances, the library, and reputation. The rankings are split into three categories: (1) primarily undergraduate schools (i.e., schools that focus on undergraduate studies with few to no graduate programs), (2) comprehensive schools (i.e., schools that focus on undergraduate studies, but also offer graduate programs), and (3) medical/doctoral schools (i.e., schools that have a wide selection of graduate programs). There have been criticisms raised against *Maclean’s* and

how their statistical methodology causes distortions in the scaling of data and the unpredictable variability of the values from the ranking indicators (see Shale and Liu, 2002).

College and university rankings are also currently being published in countries such as the United Kingdom, Germany, Japan, Russia, Greece, Canada, Australia, and China. Some of the rankings are done with the prospective students in mind. Others are done for higher education policy reasons (Morse, 2007). Other college and university rankings that have been published nationally or internationally include the following:

- European Union: The European Commission compiles a list of the 22 European universities with the highest scientific impact.
- Ireland: The *Sunday Times* compiles a listing of Irish universities based on a number of criteria.
- United Kingdom: The Higher Education Statistics Agency compiles financial, student, and staff data in the United Kingdom and disseminates the information into ranking information.
- Vanguard College Rankings: These rankings of research-doctorate universities depict institutional qualities based on faculty research achievements, faculty citation patterns, and reputation by field.
- The *Washington Monthly's* college rankings: This publication provides an assessment of which colleges are living up to their public interest mission. It ranks institutions based on criteria involving social mobility, promotion of service ethic, and fostering scientific and humanistic research.
- Arizona State University: *The Top American Research Universities* is a report compiled by researchers at this university. The report relies on data such as research publications, citations, recognitions, and funding.
- *Money* magazine's rankings of colleges and universities: These rankings are based on factors such as student/faculty ratio, library resources, entrance exam results, graduation rate, and so forth.

U.S. News & World Report

One of the most popular published reports of college and university rankings is provided by *U.S. News & World Report*. According to Morse and Flanigan (2007), the *U.S. News & World Report* rankings system rests on two pillars: (1) quantitative measures that education experts have proposed as reliable indicators of academic quality, and (2) the researchers' nonpartisan view of what matters in education. The indicators that are used to capture academic quality fall into seven categories:

- assessment by administrators at peer institutions,
- retention of students,
- faculty resources,
- student selectivity,
- financial resources,
- alumni giving,
- and (for national universities and liberal arts colleges) “graduation rate performance,” which is defined as the difference between the proportion of students expected to graduate and the proportion who actually do.

The indicators include input measures that reflect a school’s student body, its faculty, and its financial resources, along with outcome measures that signal how well the institution does its job of educating students. (See Table A1 for detailed descriptions of the indicators used to measure academic quality.)

Table A1. Indicators of Academic Quality

Indicator	Description	Weight
Peer assessment	The peer assessment survey allows the top academics contacted (presidents, provosts, and deans of admission) to account for intangibles such as faculty dedication to teaching. Each individual is asked to rate peer schools’ academic programs on a scale from 1 (marginal) to 5 (distinguished).	weighted by 25 percent
Retention	This measure has two components: six-year graduate rate (80 percent of the retention score) and freshman retention rate (20 percent). The graduation rate indicates the average proportion of a graduating class who earn a degree in six years or less. Freshmen retention indicates the average proportion of freshmen entering a school who returned the following fall.	Weighted by 20 percent in national universities and liberal arts colleges and 25 percent in master’s and comprehensive colleges
Faculty resources	Six factors are used to assess a school’s commitment to instruction. <ul style="list-style-type: none"> • Class size has two components: the proportion of classes with fewer than 20 students (30 percent of the faculty resources score) and the proportion with 50 or more students (10 percent of the score). • Faculty salary (35 percent) is the average faculty pay, plus benefits, adjusted for regional differences in the cost of living. • Also weighed are the proportion of professors with the highest degree in their fields (15 percent), the student-faculty ratio (5 percent), and the proportion of faculty who are full time (5 percent). 	Weighted by 20 percent
Student selectivity	A school’s academic atmosphere is determined in part by the abilities and ambitions of the student body. Therefore, the test scores of enrollees on the SAT or ACT tests (50 percent of the selectivity score) were factored in; the proportion of enrolled freshmen who graduated in the top 10 percent of their high school classes for all national universities and liberal arts colleges, and the top 25 percent for institutions in the master’s and comprehensive colleges categories (40 percent); and, the acceptance rate, or the ratio of students admitted to applicants (10 percent).	Weighted by 15 percent
Financial resources	U.S. News measures the average spending per student on instruction, research, student services, and related educational expenditures.	Weighted by 10 percent
Graduation rate performance	This indicator of “added value” shows the effect of the college’s programs and policies on the graduation rate of students after controlling for spending and student aptitude. The difference between a school’s six-year graduation rate for a class and the predicted fate for the class is measured.	Weighted by 5 percent; only in national universities and liberal arts colleges
Alumni giving rate	The average percentage of alumni who gave to their school.	Weighted by 5 percent

According to Morse and Flanigan (2006a), one of the first steps in ranking schools is to categorize schools by mission and/or by region. Next, data is gathered from each college for up to 15 indicators of academic excellence (See descriptions in Table A1). Each of these indicators is assigned a weight that reflects the researchers' judgment about how much a measure matters. To arrive at a school's rank, the weighted sum of its scores is calculated first. The final scores are then rescaled, with the top school in each category being assigned a value of 100, and the other schools' weighted scores being calculated as a proportion of that top score. Final scores for each ranked school are rounded to the nearest whole number and ranked in descending order. The colleges in each category are ranked against their peers, based on their composite weighted score.

In addition to producing an annual issue on America's best colleges and universities, *U.S. News & World Report* produces an annual issue on America's best graduate schools (Morse and Flanigan, 2006b). [Note: Rankings of graduate schools of education did not appear until 1994.] The graduate school rankings are based on two types of data: (1) expert opinion about program quality, and (2) statistical indicators that measure the quality of a school's faculty, research, and students. To gather the expert opinion data, the magazine researchers asked deans, program directors, and senior faculty to judge the academic quality of programs in their field on a scale of 1 ("marginal") to 5 ("outstanding"). Also, for the field of education, the researchers surveyed professionals who hire new graduates.

To arrive at a school's rank, the researchers examine the data for each quality indicator. In the field of education, the statistical indicators used in the rankings of top schools fall into two categories: (1) inputs, or measure of the qualities that students and faculty bring to the educational experience; and (2) outputs, measures of graduates' achievements linked to their degrees. The final scores are rescaled with the highest-scoring school being assigned 100, and the other schools' scores being recalculated as a percentage of that top score. The scores are then rounded to the nearest whole number and schools placed in descending order. A school's rank reflects the number of schools that sit above it. See Table A2 for detailed descriptions of the 12 indicators used to measure academic quality.

Table A2. Indicators of Academic Quality for Graduate Schools of Education

Indicator	Description	Weight
Quality assessment	Two surveys were conducted. Education school deans and deans of graduate studies (Peer Assessment) were asked to rate program quality from “marginal” (1) to “outstanding” (5). The resulting score is weighted by .25. School superintendents (Superintendent Assessment) in a nationwide sampling of districts were also asked to rate programs. Their opinions are weighted by .15.	weighted by .40
Student selectivity	This measure combines the mean verbal and quantitative GRE scores of doctoral students and the acceptance rate of doctoral applicants (.06 each). Where mean GRE scores are not available for doctoral students, mean GRE scores for all entering students may be substituted, if available.	Weighted by .18
Faculty resources	Faculty resources include the ratio of all full-time degree-seeking students to full-time faculty (.02); the percentage of full-time faculty holding awards or editorships among selected education journals in the past two years (.025); the number of doctoral degrees granted in the past school year (.05); and the proportion of degree-seeking students who were in doctoral programs (.025).	Weighted by .12
Research activity	This measure uses total education-school research expenditures (.15), average expenditures per full-time faculty member (.10), and the proportion of full-time faculty engaged in funded education-school research (.05). Expenditures refer to separately funded research, public and private, conducted by the school, averaged over two fiscal years.	Weighted by .30

Furthermore, *U.S. News & World Report* offers data on teacher preparation at the top education schools. In the 2006 annual edition of America’s best graduate schools, a table is provided (see page 32) which gives key information on the teacher preparation programs at the top 50 *U.S. News & World Report* education schools. This information includes:

- Whether or not the school is NCATE accredited
- Type of education school: undergraduate or graduate
- Enrollment (total) in graduate teaching programs
- If an alternative route to licensure program is offered
- Whether or not students are trained in a professional development school
- Whether or not students are assigned to peer working groups
- Whether or not full-time faculty are engaged in teaching programs
- Whether or not preparation coursework is offered for national certification

Note, however, that the table is not a ranking of teacher preparation programs. The table is an alphabetized listing of colleges with key information “tallied” in a table. Despite the lack of a formal ranking of teacher preparation programs in the U.S., the magazine’s editors attempt to provide guidance to students, parents, and other information consumers. They outline key attributes to consider when choosing a teacher preparation program. These key attributes to consider can also be classified as academic quality indicators. The attributes include:

- how many instructors are engaged in teacher preparation,
- whether students intern in a professional development school that is closely tied to the university, and

- whether peer working groups are organized for student teachers.

Criticisms of the Rankings

Criticisms of published college and university rankings have grown as education stakeholders and researchers have perceived flaws in the rankings systems (see e.g., Carey, 2006; Clarke, 2002; Holub, 2002; Wright, 1992). A piece written by Stuart (1995) identifies a number of problems frequently cited of ratings. According to Stuart (1995, p. 17-19), the following five problems exist with ranking systems:

- (1) Rankings compare institutions or departments without taking into consideration differences in purpose and mission.
- (2) Reputation is used too often as a measure of academic quality.
- (3) Survey respondents may be biased or uninformed about all the units (departments or colleges) they are rating.
- (4) Ranking editors may tend to view colleges with selective admissions policies as prestigious.
- (5) One department's reputation may indiscriminately influence the ratings of other departments on the same campus.

These very same criticisms, among others, have been aimed at the rankings published by *U.S. News & World Report*. According to Carey (2006, pgs. 1&3), "the *U.S. News* ranking system is deeply flawed. The magazine's rankings are almost entirely a function of three factors" fame (25%), wealth (30%), and exclusivity (40%). They directly or indirectly account for 95% of a school's ranking" (see Table A3 to understand Carey's viewpoint).

Table A3. Components of the *U.S. News & World Report* College Rankings

Measure	Percentage of ranking	Measured characteristic	Total
Peer assessment	25%	Fame	25%
Percentage of classes with fewer than 20 students	6%	Wealth	30%
Percentage of classes with more than 50 students	2%	Wealth	
Average faculty salary	7%	Wealth	
Percentage of professors with highest degree in field	3%	Wealth	
Student/faculty ratio	1%	Wealth	
Percentage of faculty who are full time	1%	Wealth	
Spending per student	10%	Wealth	
Percentage of students in top 10 percent of high school class	6%	Exclusivity	40%
Student SAT scores	7.5%	Exclusivity	
Acceptance rate	1.5%	Exclusivity	
Graduation rate	16%	Exclusivity	
Retention rate	4%	Exclusivity	
Alumni giving rate	5%	Exclusivity	
Graduation rate performance (predicted versus actual)	5%	Quality	5%

Source: Carey (2006)

As Webster (2001) points out, *U.S. News* bases its college and university rankings on a set of up to 16 measures of academic quality that fall into seven broad categories. An examination by Webster (2001) of the rankings criteria used by *U.S. News* suggests that multicollinearity among the indicators is severe and pervasive. Multicollinearity refers to the degree to which changes in the value of one or more of the ranking criteria are related to, and are affected by, changes in one or more of the ranking criteria. According to Webster (2001, p. 236), “the possibility of pervasive multicollinearity between and among the ranking criteria suggests that the assigned weighting scheme may not accurately reflect actual contributions to *U.S. News* tier rankings.”

Moreover, a number of other individuals have expressed concern with college and university ranking systems. An article published in the March 11, 2007 edition of the *Washington Post* espoused the criticisms of Sarah Lawrence College President, Dr. Michele Tolela Myers. In the article, Dr. Myers expressed her concern with the possible artificial decrease in the school’s ranking if the College decided to stop sending data to *U.S. News & World Report*. In addition, Dr. Myers wondered what impact dropping the SAT test scores submission requirement would have on their ranking (considering that her college did not rely heavily on the test scores). Furthermore, articles that appeared in the March 21, 2007 edition of *Time*, the April 9, 2007 edition of *The Chronicle of Higher Education*, the April 12, 2007 edition of *The Christian Science Monitor*, and the April 2007 edition of *USA Today* called for boycotts of the organizations or outlets that ranked colleges and universities.

According to analyses performed by Kuh and Pascarella (2004), for all practical purposes, the *U.S. News and World Report* rankings of best colleges can largely be reproduced simply by knowing the average SAT/ACT scores of students in the colleges. They cite Webster’s (2001) study of the rankings, which shows that the average SAT/ACT score of enrolled students is by far the most influential criterion in determining

where an institution ranks. Once the average SAT/ACT score is taken into account, the other so-called “quality” indices have little additional influence on where an institution falls on the list. Kuh and Pascarella (2004) conclude in their article that national magazines that purport to identify the nation’s “best” colleges are essentially ranking institutions by their selectivity, not by the likelihood of their exposing students to the most effective educational practices. Accordingly, they suggest that it would be much more productive to focus on developing indicators that more accurately represent what happens to students during college and to make this information available in a responsible way so that prospective students, policymakers, and institutional leaders can use it to make decisions that can improve student learning. As McGuire (1995; p. 47) argues, the variables *U.S. News* uses to measure quality are usually far removed from the educational experiences of students.

Similarly, Thompson (2000) contends that the *U.S. News* rankings do not “...measure the most important thing on campus—actual learning” [of students]. He notes that “systemic changes need to be made to the *U.S. News* ranking system.” In particular, “the magazine needs to make a concerted effort to measure actual education.” Thompson (2000) goes on to discuss a 1997 report by the National Opinion Research Council (NORC) commissioned by *U.S. News*. The report, an internal document at *U.S. News*, is a critique of the *U.S. News* ranking methodology, and as Thompson notes “...is probably the most detailed examination of the *U.S. News* rankings that has been done.” A number of criticisms were raised in the NORC report. First, there is little justification for the precise weighting scheme used by *U.S. News* (quote from report: “*The principal weakness of the current approach is that the weights used to combine various measures into an overall rating lack any defensible empirical or theoretical basis.*”). Second, exemplary statistical work had not been done by *U.S. News* (quote from report: “*Apart from the weights, however, we were disturbed by how little was known about the statistical properties of the measures or how knowledge of these properties might be used in creating the measures.*”). In addition, criticisms against the way *U.S. News* interpreted selected indicators (e.g., graduation rates and yield) were levied. The suggestion was to tabulate the rankings as three-year averages (quote from report: “*...to smooth out short-term fluctuation, random errors in reporting, or other factors that might cause unbelievably large movements in rankings for particular institutions.*”). Also, NORC recommended that *U.S. News* “focus more on education” (quote from report: “*There are two areas where some sort of measure should be added. These areas are student experience and curriculum.*”).

Conclusion: Improving the Educational Ranking System

Education stakeholders, researchers, and other interested parties have routinely offered their suggestions on how to best improve the educational ranking methodologies commonly used to rank colleges and universities. For example, in a 1996 presentation to the International Conference on Assessing Quality in Higher Education, Hattendorf (1996) outlined the following nine requirements for the “perfect” educational ranking:

- (1) The adoption of across-the-board standardized reporting methods by colleges and universities.
- (2) Peer review within specializations, but not across specializations.
- (3) Multidimensional techniques which utilize several of the current major methodological strategies and which are based on multiple variables.
- (4) Measuring the quality of education that students receive in terms of what they learn.
- (5) More educational rankings are needed which focus on interdisciplinary programs and on important fields of study within departments.
- (6) New and emerging disciplines need to receive attention.
- (7) The contributions of ancillary departments to the department being ranked should be acknowledged.
- (8) Assessment of research performance should cover a period of at least three to five years in order to reflect the stability of sustained research, changes in research performance, and to allow a reasonable length of time for these publications to appear in the citation indices.
- (9) In the assessment of individual departments, those possessing collective strength should be distinguished from those with individual strength.

With regard to the *U.S. News & World Report* rankings, Clarke (2002) provides the following recommendation for improving the interpretability and usefulness of the rankings: “The schools of education rankings need to be reassessed since they do not seem to “hold together.” Better comparisons might emerge if they were divided into two more conceptually coherent groups (e.g., those that are primarily research oriented and those that are primarily teacher training oriented).” Such a division is already done by *U.S. News & World Report* for schools of medicine.

In a more recent report, Carey (2006) suggests a new ranking system that combines higher education quality indicators from a variety of sources. The proposed ranking system contains indicators that are seen as “more detailed, sophisticated, and comprehensive than the *U.S. News* measures” (Carey, 2006, p. 14) (see Table A4). Twenty percent of the new rankings would be based on teaching, and each of the five teaching measures would be abstracted from the National Survey of Student Engagement (NSSE). Thirty percent of the rankings would be based on learning. In order to gauge students’ higher-order thinking skills, deep knowledge, and communication skills gained, the three measures in this section would examine culminating projects, institutional outcomes-based accreditation processes, and student’s level of growth from their freshman year to their senior as measured by the Collegiate Learning Assessment (CLA). Moreover, the next twenty percent of the proposed ranking system would be based on

institutions' retention and graduation rates. According to Carey (2006, p. 15), "by ranking institutions according to the difference between their actual retention and graduation and their statistically predicted graduation rates, institutions will be rewarded for exemplary graduation rates given their specific mission and student body. Lastly, the final thirty percent of the new rankings system would be based on students' success in life after college.

Table A4. Components of the New Rankings

Measure	Percentage of ranking	Measured characteristics	Total
NSSE: Degree of academic challenge	4%	Teaching	20%
NSSE: Active and collaborative learning	4%	Teaching	
NSSE: Student-faculty interaction	4%	Teaching	
NSSE: Availability of enriching educational experiences	4%	Teaching	
NSSE: Supportive campus environment	4%	Teaching	
CLA: Value-added and freshmen-senior year growth	15%	Learning	30%
Outcomes-based accreditation results (student-acquired knowledge)	10%	Learning	
Students' culminating projects	5%	Learning	
Freshman retention rates: Predicted versus actual	5%	Graduation	20%
Graduation rates: Predicted versus actual	15%	Graduation	
Post-Graduate education: Placement and success	5%	Success in life	30%
Employment results: Earnings (1-5-10 years after graduation)	10%	Success in life	
Employment results: Job placement/Professional licensure	5%	Success in life	
Alumni surveys: Satisfaction and success	10%	Success in life	

Source: Carey (2006)

In the end, the one certainty with the ranking systems is the lack of consensus among all interested parties. Each group wants to be assured that their best interests are being met and their voices are being heard. The task of creating a one-size-fits all ranking methodology is monumental to say the least. A system that includes indicators which accurately weigh differences between institutions and/or programs that are big versus small, research-oriented versus teaching-oriented, etc. has yet to be designed. It would be critical for future endeavors into rankings of programs/schools to consider the many nuances raised here and to develop a system which capitalizes on the significant findings supported by the research literature.

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