Evaluating Teacher Preparation Programs: What Not to Do

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Abstract

The National Council on Teacher Quality intends to rate all teacher education programs in the country and publish its findings in *US News and World Report*. The rating is to be determined by a survey of program characteristics. This paper presents the statewide results of a multi-state, collaboratively developed survey of teacher education program characteristics. Exploratory factor analysis (n=86) determined that the programs were more similar than not. Reasons for the similarity could lie in accreditation requirements. The authors warn that implementation of the proposed NCTQ methodology will have similar results. Evaluation of teacher education programs should include observational, interview and other contextualized data.

Keyword Suggestions: Teacher Education, Higher Education Evaluation, Exploratory Factor Analysis

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Introduction

Evaluating teacher preparation programs has been part of the national debate on improving the America education system since the 1983 release of *A Nation At Risk*. Wilson and Young (2005), panel members who reviewed the research on accountability in teacher education for Cochran-Smith and Zeichner's book (2005)*: Studying Teacher Education,* concluded "given the impassioned debates around accountability in teacher education, it is both surprising and troubling that there is so little relevant empirical research" (p. 616).

Within the last year, the debate has been doused with fuel by the National Council on Teacher Quality (NCTQ), an organization that pronounced on its website, "It's never been done. We're going to do it**" (**National Council on Teacher Quality, 2010). The NCTQ intends to rate all teacher education programs in the country and publish its findings in *US News and World Report*. The rating is to be determined by a survey that seeks information about such criteria as the number of professional education courses offered, policies for student teaching, and surveys of alumni. Not surprisingly many institutions of higher education with teacher education programs are refusing to participate, citing issues with methodology, specifically the "input" or survey model of accountability, which the National Council for Accreditation of Teacher Education (NCATE) rejected over a decade ago (National Council for Accreditation of Teacher Education, 2008). Collecting data about the program characteristics does not necessarily capture the quality of a teacher education program.

The authors of this study have additional reasons for rejecting NCTQ's proposed

methodology. Based on a statewide study we conducted, we found that the survey method of

identifying policies and practices does not work for discriminating among teacher education

programs. The Teacher Quality Partnership (TQP), a statewide collaborative of all institutions of

higher education with teacher preparation programs, state agencies, and other educational

associations, intended to determine the impact of teacher education on student achievement

through a comprehensive, longitudinal study (Authors, 2010). In 2007 TPQ was in partnership

with researchers in New York, Florida and Louisiana, all of which were implementing statewide

teacher education studies. A collaboratively designed survey gathered information about

program structure, content requirements, and field experiences. Although TQP was unable to

continue with the multi-state project, we did administer the survey to Adolescent/Young Adult

(AYA) Math and Middle Childhood Educator (MCE) Reading/Math Programs in the research

state. Teacher preparation programs for middle school grades were the focus. The survey is

included in the technical report (Authors, 2010).

Data Analysis

Forty-three (43) public and private IHEs responded to the online survey about AYA Math

and MCE Reading/Math programs. Some notable program descriptors are included in Table 1.

Table 1: *Notable Descriptors about Teacher Preparation Course Requirements*

Do teacher preparation program course requirements include?	Percent Reporting YES
General course sequence for education (aside from General Ed)	93%
Content knowledge completed in the College of Arts and Sciences.	80%
Designated course in special education.	85%
Designated course in technology.	80%
Designated course in diversity.	76%
Designated course on classroom management.	40%
Designated course in assessment.	40%
Designated course about English Language Learning (ELL).	10%

Regarding student teaching requirements among the 43 responding IHEs, 95% require a capstone project, and of those, 40% require a portfolio. Ninety percent have a mid-point benchmark; 90% require students to complete placements at more than one school setting; and 80% require students to complete placements in more than one grade level.

Given the variety of responses received, we elected to implement exploratory factor analysis to determine if there were sets of responses that naturally grouped teacher preparation programs together. In other words, are there patterns of correlation among the responses? Factor analysis is appropriate when researchers are trying to determine which items reflect coherent subsets (Tabachnick & Fidell, 2001).

Analysis of the program survey data began with data cleaning. From the 55 survey questions on the survey, 45 items were selected for factor analysis study. A review of the responses indicated that 24 had little to no variability (i.e., semester/quarter;

graduate/undergraduate; program length; program type; content source for instruction; descriptions of entry/exit and minimum requirements, etc.). This left 19 factors for the factor analysis, using the 86 total responses (43 AYA and 43 MCE). The ratio of factors to responses is 19:86, or approximately 1:4. This ratio is on the low side for employing factor analysis, but does not negate the use of the procedure to explore the items' relationships (Tabachnick & Fidell, 2001**).**

Using SPSS, exploratory factor analysis with 19 factors and 86 responses was completed on three groups of data: MCE and AYA combined, MCE only, and AYA only. Table 2 displays the results of MCE and the AYA program responses ($n = 86$). The resultant components using varimax rotation explained 66% of the variation in the dataset. The Bartlett's test of sphericity (Chi-square $= 318.947$, df $= 171$, p $= .0000$) indicated that the dataset does fit the model. The SPSS output identifying the components for all three analyses can be obtained from the authors.

Table 2: *Components for the MCE and AYA responses combined*

Component	% of Variance	Cumulative %
Math Requirements	12.262	12.262
Diversity	10.562	22.824
ELL Requirements	9.831	32.655
Program Characteristics	9.714	42.369
Math/ELL Entry	8.801	51.169
Math/ELL Exit	7.883	59.052
Student Teaching	7.435	66.487

Each component in this analysis explained between 12% and 7% of the variation, indicating that none of the components were particularly indicative of variation among the combined AYA and MCE preparation program responses.

Separating the AYA and MCE responses provided the following constructs using SPSS and the varimax rotation. For the AYA only analysis ($n = 43$), all factors related to English Language Learners (ELL) content areas were removed for the factor analysis, reducing the number of factors used in the analysis to 13 (Table 3). The 1:3 ratio of factors to responses is less than desirable for factor analysis, but not contraindicated for exploratory analyses. Bartlett's test of sphericity (Chi-square =158.75, df = 78, p = .000) indicated that the dataset does fit the model.

Table 3: *Components for AYA-Math responses (ELL responses removed)*

Component	% of Variance	Cumulative %
Diversity	17	17
Math Requirements	16.6	33.6
Math Program Specifics	15	48.6
Student Teaching	11.5	60.1
Unexplained construct	11	71.1

Since the MCE license includes math and ELL, the ELL factors were not removed for the MCE analysis. There were 18 factors and $n = 43$. The 1:2 ratio of factors to responses failed to provide enough information for factor analyses: the Barlett's test of sphericity (Chi-square =171.01, df = 153, sig. = .15) indicated that the dataset does not fit the model. There are not enough cases for each factor to have confidence in the model presented in Table 4.

Table 4: *Components for MCE program responses*

Component	% of Variance	Cumulative %
Entry Math or ELL	13.2	13.2
Diversity	12.5	25.7
Math Program specifics	10.3	36.0
Program Characteristics	10.2	46.2
ELL Program specifics	9.7	55.9
Math/ELL Exit	8.0	63.9
Student Teaching	7.8	71.7

The fact that no major components represented a substantially higher proportion of the variability in any of the three analyses presented here indicates that state teacher preparation programs are relatively homogeneous based on survey responses. The majority of institutions locate content course work in Arts & Sciences Colleges; clinical assessments are standardized. It is interesting to note that length of the program did not load in any of the significant components; in other words, there was not enough variability in program length across the dataset to be significant.

To demonstrate differences captured in the survey, Table 5 includes information about program differences regarding devoted courses within programs. One hundred percent of the programs have a devoted course to learning development, whereas 40% have a devoted course to assessment. It is suspected that the reason there are fewer programs with dedicated courses in Assessment, Classroom Management or ELL is that such instruction is integrated or embedded

into other courses within the program (Harper & deJong, 2009; Mahon, Bryant, Brown, & Kim, 2010; Nelson, 2006).

Table 5: *Devoted Courses in Teacher Preparation Programs*

Devoted Courses in Programs?	Yes	No
Learning Development	100%	
Assessment	40%	60%
Technology	80%	20%
Diversity	77%	23%
Special Education	85%	15%
ELL	10%	90%
Classroom Management	40%	60%

Discussion and Conclusions

The analyses demonstrate that the 2007-2008 survey responses regarding Ohio teacher preparation program elements were not different. The components identified in the factor analysis of the program descriptors were easily explained, indicating that the dataset did discriminate well among the programs. However, no components accounted for a majority of the variation among programs; the programs were more alike than they were different.

Possible explanations could exist because of national accreditation standards and state policy requirements. State policies and accreditation protocols provide standards for the

conceptual framework of a teacher preparation program. As a result, programs align courses to

address the standards. Accreditation organizations such as NCATE or TEAC review the teacher

preparation programs to ascertain that all standards are being met. Allington (2005) laments that

accreditation requirements tend to "homogenize teacher preparation" (p. 199); these analyses

support his concerns. Moreover, Goodlad (as cited in Wilson and Youngs, 2005), in an intensive

study of 29 teacher education institutions, found heads of programs to be resigned to accept that

their curricula would be largely determined by state policy. The results reflect that the teacher

education programs in the research state do align with the state's policies; survey responses

indicate they are very similar.

Based on this research, we predict that if the NCTQ is successful in gathering data on all

teacher preparation programs in the country using the current survey methodology, the results

will be similar to ours. Such studies as the one documented by Boyd, Grossman, Langford, Loeg,

and Wyckoff (2009), which combined data collected from surveys, documents, and other

materials with interviews, observations, and other contextualized sources, is much more

revealing about the qualities and characteristics of effective teacher education programs.

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