An assessment system for teacher education program quality improvement

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Abstract

Purpose – The purpose of this study is to describe how one US Midwestern university implements quality principles, based on the value added premise in a teacher preparation program that yields accountability, teacher education standards attainment and ultimately improvement of teacher candidates and overall programs.

Design/methodology/approach – Data pertinent to students were gathered in a systematic way as they declared a certification area. This data was used to identify students who needed tutorial support and class advisement to assure successful matriculation, program completion and success on identified critical assessments. The two assessments identified were teacher work sample (TWS) and the national physical education certification examination (Praxis II). Meaningful proactive advisement, data sharing and tutorial testing assistance program were the primary approaches used to improve teacher candidate competencies.

Findings – Specific course modifications and curricular redesign resulted in positive results on the TWS and Praxis II. The results have been improved teacher candidate performance on knowledge, skills and dispositions measures.

Research limitations/implications – As result of sharing data, a cultural shift occurred within the program. Faculty became more accountable to teacher candidate competency attainment and teacher candidates became more attuned to becoming an effective prospective teacher.

Practical implications – Because this particular teacher education programs implemented quality principles, utilized the value added approach to management and systematically used data that yielded positive results, it has become a model for other teacher education programs.

Originality/value – This study uses one program to provide examples of how management of accountability and standards attainment can lead to administrative, curricular, candidate and overall program improvement.

Keywords Secondary education, Assessment, Educational administration, Quality management, United States of America

Paper type Case study

Statement of the issue

Accreditation agencies have shifted from an input model to an outcomes-based approach to teacher preparation (Dill, 1998). With the impact of the No Child Left Behind Act (2001)[1] and the increased rigor of accreditation standards, teacher education programs are grappling with developing and implementing assessment systems that are attempting to assess outcomes through multiple measures that can systematically assess quality. Along with these expectations it is hoped that teacher preparation programs reflect aspects of the value-added model that emerged in the 1990s (Sanders, 1998).
Teacher education programs must demonstrate how program requirements are in fact adding value to the teacher candidates as they matriculate through teacher preparation programs. Moreover, many traditional educational departments and programs are also seeking out strategies to achieve the presumptive goal of teacher education, which is showing added value measured by positive impact on P-12 student learning (Cochran-Smith, 2001, 2003). This paper will address how one institution manages to implement quality principles, based on the value added premise, in a teacher preparation program that achieves teacher candidate effectiveness and program improvement while maximizing teacher candidate retention.

According to Lasley et al. (2006), through the years, the value of teacher preparation programs has been interpreted from various viewpoints. Some researchers perceive that challenges for teacher education programs are a training problem, while some others describe them as a learning problem and still others claim it is a policy problem (Cochran-Smith, 2003).

To directly address the aforementioned viewpoints of teacher preparation, multiple measures and value added assessments must be part of a systemic process and accountability review. To meet this need, a data-rich assessment system was systematically developed and implemented at a rural, public Missouri university. This university has long had a tradition of teacher preparation and this data rich environment has now created a culture of accountability between teacher candidates and teacher education faculty. This culture shift addresses many of the common issues surrounding teacher preparation, including training concerns, learning issues and policy questions (Lasley et al., 2006). This culture shift has resulted in higher exit test scores, improved TWS results and cohesion resulting in more professional involvement of teacher candidates, departments, program areas and clinical faculty.

Relevance

A data rich environment is irrelevant if it is not translated into information and shared with others. One key data point often missing from teacher education preparation programs was the measured impact (value added) on P-12 student learning. This information is needed to continually seek ways to develop and train future teachers so they are more effective in P-12 settings. Teacher preparation programs are now being scrutinized more than ever by accreditation bodies to meet accountability standards. These accreditation bodies (National Council for Accreditation of Teacher Education – NCATE and National Association of Sport and Physical Education – NASPE) now require teacher preparation programs to show how data is used programmatically and how it impacts teacher candidate development. Continuous program improvement is necessary to keep apprised of the ever-changing dynamics of the P-12 settings, classroom management challenges, cultural and diversity shifts and economic shortfalls. Programs with effective data management systems and teams to analyze, evaluate, and redirect policy based on data will withstand fierce internal and external accountability pressures far better than those without systematic processes. Furthermore, it is necessary to use data for effective decision-making by being proactive instead of reactive. This is the essence of continuous quality improvement.
Continuous quality improvement model
The quality program improvement approach to management and policy fits nicely with this university’s embedded philosophy of the Baldrige continuous improvement and total quality management model. Two of the essential principles of the Baldrige assessment process are a plan to continuously improve operations and a system for accurately tracking and measuring improvements (Hart and Bogan, 1992).

Other precepts of the total quality management (TQM) approach to management are shared vision, stakeholder focus, shared decision-making and consensus building among team members. Probably one of the most important of the above mentioned pillars of TQM was that of shared vision which manifested into “buy in” by team members for new program initiatives. The use and compilation of the data generated from the assessment system helped to convince teacher education faculty that a culture change needed to occur in order to continue the program's purpose and vibrancy. In order to examine program changes, one program will be used as an example to tell the story of specific outcomes measures of performance and quality. Decisions based on data led to culture changes and improvements in the physical education program.

Data rich assessment system
The assessment system that was developed addresses one of the prescribed performance indicators of an accrediting agency, National Council for Accreditation of Teacher Education (NCATE, 2002), which recommended that teacher education units make changes when evaluations of information from data necessitate. It is also recommended that systematic evaluation provides actionable items for changes to occur to assure that programs are strengthened. It is also expected that teacher candidates and faculty review performance data regularly and develop improvement plans based on those performance reviews. The different types of assessment instruments that have been developed have provided the needed information to implement support systems that enhance teacher candidate knowledge, skills and dispositions. While simple enough in theory, making changes when data indicates the need is not so easy to achieve. To instigate change, data were, interpreted and shared across university, college, unit, and program teams. This pertinent information was used to address challenges and opportunities for specific program improvement that has stimulated curriculum reform and data focused policy-making. Advisors carried out policy by informing teacher candidates of increasing expectations and, in turn, holding them accountable to meet a higher standard for beginning teacher competency.

External pressures for programmatic changes
Some of the prominent external change drivers included: increased accreditation standards (Wise and Leibbrand, 2001) and the change from input-based measures to outputs in the form of performance measures (Cochran-Smith, 2003). At this institution, the external drivers of quality and accountability standards are examined against accreditation expectations, including federal (NCATE), state (Department of Elementary and Secondary Education) and specialty program area (SPA) expectations. Other change drivers included No Child Left Behind Federal Legislation (2001), required Title II reports of institutions of higher learning, competitive comparison, benchmarking, multiple measure-based assessment, the
desire to attain Malcolm Baldrige National Quality Award recognition and state level Quality Award recognition.

The use of the data to implement advisement strategies, instructional techniques and curricular modifications are changes mobilized by accrediting agencies expectations and has resulted in increased expectations for teacher education programs. According to Lasley et al. (2006), “the goal of everyone is or should be similar – a highly qualified and highly effective teacher in every classroom” (p. 14). Therefore, these multiple external pressures now mandate that teacher education programs demonstrate quantifiable evidence of what teacher candidates, teachers and students should know and be able to do (Pullin, 2004; Cochran-Smith, 2003).

To keep up with rising federal and state accountability expectations of teacher education programs, some education programs struggle to maintain the balance between accountability, autonomy and academic freedom (Pullin, 2004). Pullin (2004) reinforced that schools of education have traditionally had academic freedom and autonomy that has provided resilience and protection for them in the arena of higher education. To fully comprehend how the physical education program changed and improved as a response to external pressures, it is also important to address pressures from within the institution.

**Internal change agents**

Internal change agents also have an impact on accountability in the teacher education program. One such change agent that influences and directs the university’s approach to management is TQM which is similar to Sander’s (1998) value-added models. With the TQM approach to management all programs are expected to continually gather data, interpret the data and make programmatic changes based upon the data.

Other internal drivers include data gathered from: alumni survey feedback, external advisory council feedback, stakeholder feedback (focus groups), faculty input, formative and summative student teacher evaluations and Teacher Work Sample data (Renaissance Group). Also the feedback and perspectives from the Professional Education Unit (PEU) leadership team and university-wide data oversight committees has shaped policies and recommended improvement initiatives.

While numerous internal and external accountability expectations are pressures are pressuring teacher education programs to provide evidence of effectiveness, some programs are turning a deaf ear to these challenges. Progressive schools of education strive to develop data-driven systems that impact instructional decisions and curricular changes to not only improve teacher candidate quality but also to provide evidence of positive impact on P-12 student learning. The systematic approach used by faculty to assess and direct teacher candidates has provided a multiple measures approach to assess candidates and has also allowed for multiple routes for professional education admissions.

**Initiatives for programmatic and culture change**

Changes within the physical education program resulted in an administrative and responsibility shift that yielded evidence of significant gains for beginning teacher quality and effectiveness. In the past, within the physical education program, the teacher education accreditation responsibilities rested solely upon the department chair. Five years ago, two undergraduate curriculum coordinator positions were
created, one for physical education majors and another for recreation majors. Through this administrative reorganization there was a concerted effort to create a culture of collaboration and information sharing between physical education majors (teacher candidates) and physical education faculty. This culture has been established and has set the stage for faculty and students to understand and respond to increasing expectations for program accountability.

Some of the main strategies that emerged as a result of this culture shift include timely and meaningful tutorial testing assistance programs, proactive advisement and a data-sharing system for faculty advisors and teacher candidates. All of this has been established in order to produce highly effective candidates as measured through performance and competency attainment. Also, data generated from various sources has stimulated specific course modifications and initiated curriculum reforms within the physical education teacher preparation program. Furthermore, better advisement has yielded a supportive culture that enables teacher candidates to remediate weaknesses at key points in their careers in order to stay in the program and increase their level of preparation and competency. Results indicate that some at-risk candidates prove to be considered highly qualified by multiple measures as they complete the program, even though at the outset they began with fewer competencies. This is another example of the value-added approach to teacher education preparation within this program.

Presented in Table I is a comparison of the before culture shift compared to the after culture shift that were created to enhance accountability and quality within the physical education teacher preparation program (PETPP).

<table>
<thead>
<tr>
<th>Before culture shift</th>
<th>After culture shift</th>
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<tbody>
<tr>
<td>No curriculum undergraduate coordinators</td>
<td>Subject-area curriculum coordinators</td>
</tr>
<tr>
<td>No major handbook</td>
<td>PE comprehensive professional handbook</td>
</tr>
<tr>
<td>No all-major annual meetings</td>
<td>Biannual all-major meetings</td>
</tr>
<tr>
<td>Little knowledge of leading indicators of data (standardized test, ACT, GPA, etc.)</td>
<td>Comprehensive list of majors and key leading indicator data</td>
</tr>
<tr>
<td>No academic success plan</td>
<td>Academic success plan</td>
</tr>
<tr>
<td>No directed advisement</td>
<td>Directed advisement</td>
</tr>
<tr>
<td>No academic advisement training for faculty</td>
<td>Academic advisement training for faculty</td>
</tr>
<tr>
<td>No common scoring guides, lesson and unit plans</td>
<td>Common scoring guides for lesson and unit plans</td>
</tr>
<tr>
<td>No developmental portfolio</td>
<td>Developmental portfolio</td>
</tr>
<tr>
<td>No required teacher work sample</td>
<td>Required teacher work sample</td>
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<tr>
<td>No external advisory council</td>
<td>Functioning external advisory council</td>
</tr>
<tr>
<td>Underutilized academic support system for tutoring and test preparation</td>
<td>Implemented academic support processes for test preparation</td>
</tr>
<tr>
<td>No specific practicum or guided field experiences</td>
<td>Major specific progressive practicum</td>
</tr>
<tr>
<td>Conceptual framework of knowledge, skills, disposition not fully implemented</td>
<td>Conceptual framework of knowledge, skills, disposition fully implemented</td>
</tr>
<tr>
<td>No best practice survey</td>
<td>Best practices survey data collected and used</td>
</tr>
<tr>
<td>Data not shared from education unit to major program and vice versa</td>
<td>Assessment system constructed to share data and use results for continuous improvement of program</td>
</tr>
</tbody>
</table>

Table I. Changes made to improve accountability and quality in PETPP
Making the change: creating a sense of urgency

The initial urgency to create the culture shift was a widely-held concern about Praxis II data that were publicized in the form of the Title II report. Unfavorable data from the 1999 cohort led to a stimulus to improve the program. Data were shared among faculty that has led to innovative instructional decisions and curricular changes. Field experiences have been extended and are progressive in nature. Professional development school (PDS) partnerships are being developed and cultivated at the various field experience opportunities. The forging of a more solidified partnership with the clinical/field experience faculty has provided another avenue to invoke change in the development of the teacher candidate.

The opportunity and urgency for making significant changes to improve the score report on Title II and to meet new accreditation standards was viewed as a great, if not impossible, challenge. However, hindsight proves that the changes that were made have significantly improved data based decision making, candidate quality and program performance outcomes. This public scrutiny and impending accreditation review also provided the opportunity and imperative to create a unique assessment system that is fundamentally based upon continuous quality improvement. Timely data analysis has served to highlight needs and strengths for each candidate. These data are shared with the advisor, the candidate and professional education unit data analysis oversight teams. The assessment system has a systematic approach to seek out and support all teacher education candidates at each stage of their pedagogical development (identified as gateways). By analyzing, interpreting and disseminating data, appropriate measures can be taken to remediate academic, pedagogical and dispositional weaknesses that teacher candidates may possess.

Value-added teacher candidate preparation

The importance of data analysis is highlighted by the relationship of some standardized measures and the understanding of the relationship to performance. There are studies that indicate that ACT and Praxis II standardized tests are highly correlated. However in some cases, students who have low ACT scores, do in fact score high on standardized exit exams, breaking the cycle of low testing performance and providing proof of value added quality. By emphasizing effective study habits, dispositions and enhanced test taking skills, initially lower performing students do succeed on exit exams. The assessment system allows the program and advisors to support all candidates to get the assistance needed and increase the likelihood of retention and success in the program.

By taking a multiple measures approach to teacher candidate development, teacher education programs are expected to move toward more performance based assessments, disposition data and identification of leading indicators for teacher effectiveness in the P-12 arena. Taking a proactive approach to assessment based upon a data rich information system, the unit’s multiple-measures based evaluation approach has enabled the physical education program to develop accountable, competent, high quality educators who can enhance P-12 student learning gains.

One of several measures that have been used to show added value is the Missouri Praxis II (10091) physical education content knowledge exam. Over the last five years the Praxis II scores for the physical education majors are presented in Figure 1 and show that test results have indeed increased over the last five years.
Each term, student teachers complete a TWS that includes seven elements of:

1. Learning context.
2. Objectives.
3. Instructional plans.
4. Assessment plan.
5. Instructional decision making.
7. Reflection.

Over the last several years, the physical education majors show gains on the TWS from fall 2003 through spring 2005. Figure 2 provides evidence that physical education majors have improved significantly on this applied P-12 assessment of student learning measurement tool.

Each element is equal to 2 points. Competency is equal to 2 points. From fall 2003 and the spring 2005 term, it is apparent that physical education majors did improve their TWS individual elements score.

The preceding two graphs show evidence based on two measures (one national exam, Praxis II, and one local assessment, TWS) that content knowledge and skills
have improved over time. External accountability pressures to both increase candidate licensure test scores and in-class performance initially stimulated the programming changes that have led to marked teacher candidate performance improvements. However, what instigated the physical education program improvement was the development of a data-based decision making culture emphasizing proactive advisement, advisor training, and systematic curriculum and field experience improvements.

**Conclusion**

Accreditation agencies have shifted from an input model to an outcomes-based approach to teacher preparation (Dill, 1998). Teacher education programs are striving to show how the program requirements are in fact adding value to the teacher candidates as they matriculate through the teacher preparation program. Moreover, many educational departments and programs are also seeking out strategies to achieve the goal of teacher education, which is showing value added measures in the classroom, demonstrated as a positive impact on P-12 student learning (Cochran-Smith, 2003). One Midwestern university manages to implement quality principles, based on the value added premise, in a teacher preparation program that achieves teacher candidate effectiveness and program improvement while maximizing teacher candidate retention.

Moreover, one program provides examples of how accountability and standards attainment can lead to administrative, curricular, candidate and overall program improvements.
improvement. Some of the main strategies that emerged as a result of this culture shift in the physical education program included timely and meaningful tutorial testing assistance programs, proactive advisement and a data sharing system for faculty advisors and teacher candidates. All of this has been established in order to produce highly effective candidates as measured through performance and competency attainment. Also, data generated from various sources stimulated specific course modifications and initiated curriculum reforms within the physical education teacher preparation program. The results have been improved candidate performance on knowledge, skills and dispositions measures and most importantly evidence of positive impact on the learning of P-12 students. This quality approach is paying the results forward.

Note

References

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