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TEACHING AS ACADEMICALLY BASED PROFESSIONAL PRACTICE

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ABSTRACT

This discussion presents an argument for developing teaching as a profession wherein practitioners have a shared academic knowledge base, practices, procedures, and protocols with an understanding of how and the conditions under which to apply specific approaches. In this conceptualization, teaching is viewed as an interpretive practice that relies on academic knowledge for practice generated through research on practice translated into procedures and protocols that have been tested and validated. Knowledge from practice is generated through systematic observation and documentation of students' responses to learning experiences and the social context for learning. Teacher preparation includes the knowledge base for teaching and a separate knowledge base for learning to teach.

Keywords: Teaching; Teacher Preparation; Professional Practice.

RESUMO

A DOCÊNCIA COMO PRÁTICA PROFISSIONAL COM FUNDAMENTAÇÃO ACADÊMICA

Na discussão aqui apresentada, defende-se que a docência seja desenvolvida enquanto profissão cujos participantes compartilham uma base de conhecimentos acadêmicos, práticas, procedimentos e protocolos, bem como um entendimento de como, e sob quais circunstâncias, aplicar abordagens específicas. Nessa linha, a docência é vista como uma prática interpretativa, que lança mão de conhecimentos acadêmicos para gerar uma prática construída sobre pesquisas elaboradas a partir da prática, a partir das quais desenvolvem-se procedimentos e protocolos testados e validados. Tal conhecimento advindo da prática é produzido a partir de observação sistemática e documentação das respostas de discentes a experiências de aprendizagem e ao contexto social da mesma. A formação docente abrange tanto a base de conhecimentos para o ensino quanto uma outra base, de aprendizado da docência.

Palavras-chave: Docência; Formação de professores; Prática profissional.

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RESUMEN

LA ENSEÑANZA COMO PRÁCTICA PROFESIONAL CON UNA BASE ACADÉMICA

En la discusión que aquí se presenta, se argumenta que la docencia se desarrolla como una profesión cuyos participantes comparten una base de conocimientos académicos, prácticas, procedimientos y protocolos, así como una comprensión de cómo, y en qué circunstancias, aplicar determinados enfoques. En este sentido, la enseñanza se considera una práctica interpretativa que se basa en el conocimiento académico para generar una práctica basada en la investigación a partir de la práctica, a partir de la cual se desarrollan procedimientos y protocolos probados y validados. Este conocimiento basado en la práctica se produce a través de la observación sistemática y la documentación de las respuestas de los alumnos a las experiencias de aprendizaje y al contexto social del aprendizaje. La formación del profesorado abarca tanto la base de conocimientos para la enseñanza como otra base de aprendizaje para enseñar.

Palabras clave: Enseñanza; Formación del profesorado; Práctica profesional.

Introduction

This discussion is focused on developing and sustaining teaching as a profession and transforming public education to incorporate a culture of academically based professional practice. Developing a teaching profession includes formulating a trustworthy knowledge base, ensuring that academic knowledge from coursework is applicable to practice, and providing opportunities for interpreting and translating academic knowledge for practice during clinical experiences in preservice teacher preparation. Sustaining teaching as a profession requires developing an academic culture of practice, regulating the quality of teacher preparation, and providing opportunities for the continuous improvement of practice. Transforming public education requires developing a culture of academically based practice that systematically incorporates the essential elements for school services that include the conditions for planning, documentation, and assessment.

Within a culture of practice, an executive convention and conceptual integrity are two essential conditions for developing and sustaining teaching as a profession, and for transfor-

ming public education. An executive convention demonstrates the interrelationship among the pivotal parts of a system and produces evidence for viability or outcomes. This discussion includes three executive conventions that include a teaching cycle, essential elements for education services, and essential factors for regulating the quality of teacher preparation. Each of the executive conventions is grounded by conceptual integrity that provides clarity in the representation of attributes, the strength of the relationship among attributes, and consistency in generating the expected product or outcome.

What Constitutes a Profession?

The question of what constitutes a profession has been debated in the United States for more than a century. In 1910, Abraham Flexner gained national attention with the publication of his Carnegie Foundation report in which he was highly critical of practices in medical education in the United States and Canada. In 1915, Flexner spoke at the National Conference of Charities and Corrections for the Education

for Social Work session. The title for his speech was "What makes a Profession?" Flexner identified six criteria for a profession that included (1) intellectual character (problem solving), (2) learned character (knowledge building), (3) specialized educational discipline, (4) responsible to a larger end, (5) altruism, and (6) self-organization (MORRIS, 2008). According to Morris (2008, p. 39) "Flexner (1915) asserted that social work could not be considered a profession because it lacked (1) the decision-making authority in the critical thinking process, (2) a definite purpose, and (3) a purposefully organized educational discipline".

Subsequently, other scholars have defined professions from different perspectives including a functionalist perspective focused on characteristics in the society, the process perspective focused on how an occupation becomes a profession, and the power perspective focused on group control over the work. Contemporary perspectives build upon previous perspectives to present a more sophisticated and contextualized view of professions (ABADI; AYENTIMI; COETZER, 2020). Abadi, Ayentimi, and Coetzer (2020) concluded that, in general, a profession can be described as:

"A specialized, knowledge-based and legally self-regulating occupation that renders its services to the public and society through a complex, reciprocal relationship based on competence, recognition and trust, and characterized by several common attributes." (p. 9).

The process for an occupation to become a profession and the time it takes are unclear. Abraham Flexner's 1915 criticism did not generate an immediate response from the Social Work and Research Conference. However, 100 years later, at the 2016 conference for Social Work and Research (SSWR), the American Academy of Social Work & Social Welfare (AAWSW) announced 12 Grand Challenges for Social Work (GCSW). Williams (2016) described the GCSW as "a large-scale initiative to bring a focus and synergy between social work research, practice, and education to bear on a

range of universal social, economic, political, environmental, and psychological problems" (p. 67). It is possible that the focus on innovation, collaboration, and evidence-based programs can develop measurable progress towards systemic problem solving. The GCSW addressed two of Flexner's criteria for becoming a profession, a purpose and a purposefully organized educational discipline.

Developing Teaching as a Profession

Elements of a trustworthy knowledge base

Essential characteristics of other professions and occupations such as a shared knowledge base among practitioners are not consistently identifiable across classrooms within schools and across schools and school districts in the United States. Variations in learning outcomes for P-12 students across classrooms within low -performing schools and across schools, school districts, and states (NCES, 2019) challenge the existence of a consistently applied shared knowledge base, practices and procedures for teaching and learning generated through the systematic study of teaching practices and the testing and validation of learning experiences for different subgroups of students (PALUMBO; KRAMER-VIDA, 2012). It is this evidence of students' underperformance and variations in academic performance across subgroups and school contexts that indicates highly consequential discrepancies in the shared knowledge base, practices, and procedures for teaching and learning in public schools. Ameliorating these discrepancies requires rethinking the approach for developing the shared knowledge base, practices and procedures for teaching and learning.

The primary challenge for teacher education is in developing effective teaching practices and learning experiences for the diversity of students served in public schools and developing approaches and practices for the preparation of

teachers with the ability to consistently apply such practices. Meeting the challenge requires a trustworthy academic knowledge base for teaching and clinical experiences that provide opportunities and support for the application of academic knowledge to practice and learning from practice how to adapt learning experiences for students from diverse cultural and experiential backgrounds and with different needs. A trustworthy academic knowledge base is one that can be effectively applied to practice in the observation of students and classroom practices, planning instruction, and facilitating learning that achieves the expected learning outcomes for students. A productive clinical experience is one in which the candidate can make observations and analyze students' responses to learning experiences and the social context in the classroom through the lens of academic knowledge from coursework; apply academic knowledge from coursework in planning learning experiences and facilitating student learning; and receive feedback from experienced practitioners on adapting learning experiences and social arrangements for differences among students.

Discipline specific knowledge

The knowledge base for teaching and teacher preparation includes content and experiences provided for candidates through subject matter courses in specific disciplines and professional courses in teacher preparation programs.

Teachers are better prepared when the knowledge in subject matter courses is aligned with specific aspects of the school curriculum and includes disciplinary literacy, the structure of the discipline, and practices in knowledge construction and determining the credibility of existing and new knowledge. In their professional coursework, candidates learn to apply discipline specific practices in developing learning experiences for students. Part of learning to teach is the translation of subject matter for classroom teaching that includes the

framing of the curriculum (subject matter) in relationship to what students know and value and incorporating the structure of the discipline for appropriate sequencing in connecting big ideas with related concepts, principles, and practices (HOLLINS, 2019; HOLLINS; WARNER, 2021a).

Professional knowledge for practice

The second part of the knowledge base for teaching includes (a) academic knowledge from theory, research, and documented observations of teaching practices; (b) students' responses to learning experiences; and (c) the social context in the classroom and school. Academic knowledge focused on professional practices for teaching include researched approaches and methods for facilitating various types of learning under specific conditions supported by theories of learning. Theories of learning, child and adolescent development, culture and socialization guide the initial conceptualization of learning experiences and social arrangements for learning. Researched practices for teaching specific subject matter and skills, students from specific cultural and experiential backgrounds, and students with specific needs support contextualizing and personalizing learning experiences.

The continuous observation and documentation of students' responses to learning experiences and the social context for learning support refining learning experiences to maximize the benefits. This is the process of learning from practice how to adapt learning experiences for the children being taught.

Knowledge for teacher preparation

The knowledge base for teacher preparation includes the knowledge base for teaching and a separate knowledge base for learning to teach. The knowledge base for learning to teach includes theory, research, and documented observations of practices and progress of candidates in learning to teach. The coherence in practices for learning to teach can be increased

by systematic application of a theoretical perspective in the design of coursework, the design and implementation of clinical experiences, and in framing experiences for learning to apply academic knowledge in observations and practice. Presently, there is limited research on learning to teach that is focused on the theoretical perspective employed in clinical experiences and the application of academic knowledge to practice. Additionally, often the documentation for observations of learning to teach is limited to feedback and evaluation of candidates' performance during clinical experiences by master teachers and university supervisors.

A well-articulated theoretical perspective on learning to teach is the foundation for a trustworthy knowledge base for teacher preparation. A theoretical perspective is a way of understanding and explaining the interrelationship among identifiable characteristics or components of a situation or phenomenon that support generating predictable outcomes with a specific impact. A theoretical perspective on learning to teach explains the relationship among the academic knowledge provided in courses, and between academic knowledge and clinical experiences. The promise of teacher preparation is that candidates will develop the ability to prepare P-12 students from diverse cultural and experiential backgrounds, and with different needs, for meeting expectations in social development for their age and grade level and academic development in specific skills and subject areas. In cases where program graduates are unable to consistently support their students in meeting expectations, teacher educators need to ask the following questions: (a) Is the knowledge base presented in coursework stable and applicable to practice? (b) Are candidates provided adequate opportunities and guidance in applying academic knowledge to practice during clinical experiences? (c) When candidates apply the academic knowledge from coursework are

they able to make appropriate adjustments in practice to facilitate learning for students from diverse cultural and experiential backgrounds and meet the expectations indicated for the students taught?

Applying Academic Knowledge to Practice

Applying academic knowledge to practice requires that what candidates learn from their coursework can be applied to practice. Knowledge for teaching can be viewed in four forms that include declarative knowledge, procedural knowledge, conditional knowledge, and contextual knowledge (see Figure 1). These four forms of knowledge are interrelated and interdependent in professional teaching practice (PARSONS et al., 2013). For example, declarative, procedural, and contextual knowledge form the basis for the conditional knowledge that informs adjustments in the framing of the curriculum and designing meaningful and productive learning experiences for students with different cultural and experiential backgrounds and different needs. Declarative knowledge is knowing that specific academic knowledge including subject matter, research, theory, and principles inform teaching practices. Procedural knowledge is understanding the process for applying declarative knowledge to practice. Conditional knowledge is knowing when and under what conditions or circumstances to apply declarative and procedural knowledge. Contextual knowledge is understanding the teaching situation including the students, the local community, the school, and the school district. Each type of knowledge requires different cognitive processing and appropriate experiences for developing competence for professional practice. However, developing each type of knowledge requires some form of observation and guided practice for application.

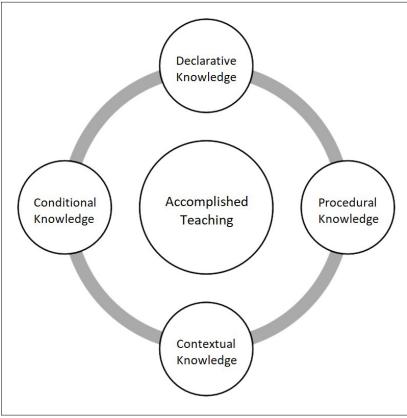


Figure 1 - Accomplished Teaching

Accomplished teaching requires the application of academic knowledge to practice and learning from practice how to adjust learning experiences for differences among students and contexts.

Ensuring that knowledge is applicable to practice

Knowledge is applicable to practice when its implementation in practice is directly observable or its application to practice can be documented. An example of academic knowledge directly observable in practice is the use of the method of repeated reading to facilitate early literacy development. This is a well-researched approach that includes a specific procedure that is observable and replicable (SAMUELS, 1997). The use of historical inquiry as an approach to teaching history is an example of academic knowledge of subject matter applied to practice that is directly observable (ROB-ERTS, 2014). However, the characteristics of children and adolescents at different stages of cognitive and intellectual development can be inferred based on their responses to specific experiences and situations; however, intellectual processes may not be directly observable. The

knowledge of child and adolescent growth and development is used to interpret the responses of students and it influences planning learning experiences and framing the curriculum (RO-GOFF; WERTSCH, 1984).

In learning to understand and apply academic knowledge to practice candidates need course assignments that include directed observation with focused attention, documentation, and analysis of instructional practices and procedures, and students' responses to learning experiences in classrooms with experienced teachers. Candidates use the academic knowledge from coursework to analyze and interpret their observations. When appropriate and possible, course assignments provide opportunities for applying knowledge from coursework to practice under the guidance of experienced teachers and/or university faculty.

Course assignments that require the application of academic knowledge through directed

observation and guided practice provide evidence for the trustworthiness of the knowledge base for teaching and the effectiveness of the learning experiences provided for candidates. This requires that the knowledge included in courses for professional preparation is purposefully designed for observation and application to practice whether it is declarative or procedural. Individuals teaching courses for professional preparation need to demonstrate the application of knowledge to practice. This requires a deep knowledge of teaching and school practices.

Addressing differences among students

Knowing how, when, and under what conditions to apply academic knowledge and knowledge from practice is essential for adapting learning experiences for differences among students. This practice requires deep knowledge of students (contextual knowledge) that includes academic knowledge, knowledge from practice, and knowledge of students' experiences. Academic knowledge includes adolescent growth and development, cultural values and practices, and the social and political context in which students live. This knowledge is the foundation for understanding students' cognitive and social development.

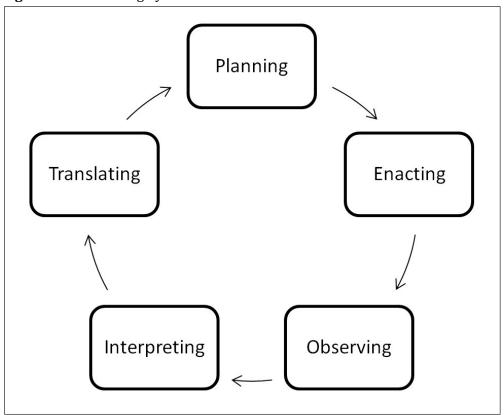
Knowledge from practice is based on observation and documentation of students' responses to learning experiences and social interactions with peers and adults. There is a reciprocal relationship between academic knowledge and knowledge from practice when adjusting learning experiences for different student needs. Academic knowledge can be used to interpret observations in classrooms and schools; however, insights gained from practice can inform interpretations of academic knowledge. For example, procedural knowledge for creating and using student groups gained from coursework can be modified to accommodate differences or needs among students not addressed in the original academic knowledge. Knowledge of students' experiences is gained through interviews and surveys completed by students and their parents. Such interviews and surveys are designed to elicit unique experiences, accomplished skills or talents, preferences, or special needs. Additional information regarding students' academic and social experiences can be found in permanent school records. This deep knowledge of students forms the basis for adjusting learning experiences and the social context in the classroom for differences in students' needs.

The extent to which adjustments can be made to accommodate different student needs can be influenced by school and district policies, practices, procedures, and resources available. For example, in situations where school and district policies and practices require strict adherence to a restricted curriculum and pacing guides teachers' ability to adjust learning experiences based on students' specific needs are limited. Consequently, some students are at risk for limited access to meaningful and productive learning experiences. Limitations on teachers' ability to adapt learning experiences for differences among students can negatively impact academic progress, cognitive, and intellectual development. In these situations, teachers may recommend experiences and resources outside of school or design homework experiences that increase access to meaningful and productive learning experiences.

Interpreting and Translating Knowledge for Practice

The teaching cycle represented in Figure 2 is an *executive convention* that presents a way of understanding the overarching actions in the teaching process. This cycle is pivotal in interpreting and translating knowledge for practice. This cycle is based on a constructivist theoretical perspective and is at the core of the perspective on teaching as an interpretive practice.

Figure 2 The Teaching Cycle



Teaching is a continuous cycle using academic knowledge and knowledge from practice for planning instruction and students' responses to learning experiences for improving outcomes.

Teaching as interpretive practice

Applying academic knowledge to practice in the conceptualization of teaching as an interpretive practice or process requires that candidates have access to: (a) a stable and trustworthy knowledge base for teaching, (b) knowledge from coursework that is applicable to practice, (c) clinical experiences that provide opportunities for the observation and application of academic knowledge to practice, and (d) learning from practice how to adapt learning experiences for differences among students. Developing high levels of teaching competence through the application of academic knowledge to practice requires experiences embedded in a sound theoretical perspective on learning to teach, epistemic practices that foster the habits of mind associated with effective teaching, and appropriate guidance and feedback on progress towards competent teaching.

Learning teaching as an interpretive practice

An effective approach for consistently preparing competent teachers requires a sound theoretical perspective that presents a clear conceptualization of teaching that includes an explanation of the teaching process, and epistemic practices for internalizing habits of mind and effective teaching practices. The conceptualization of teaching can be applied in a coherent approach for learning to teach where epistemic practices can be integrated across courses and clinical experiences. In this type of theoretical perspective, the conceptualization of teaching and epistemic practices provides opportunities for evaluating the implementation of the approach and the trustworthiness of the academic knowledge base for teaching provided in courses and clinical experiences.

Learning teaching as an interpretive practice involves a constructivist theoretical perspective where candidates engage in focused inquiry, directed observation, and guided practice. The focused inquiry engages candidates in the study of conceptualizations from academic theory and research presented as declarative and procedural knowledge. Directed observations provide opportunities for documenting and examining academic knowledge in practice and students' responses to learning experiences and supports the development of habits of mind in constructing knowledge of practice. Guided practice provides opportunities for candidates to begin learning to apply academic knowledge to practice and learning from practice how to adapt learning experiences for differences among students. Hollins & Warner (2021a) define teaching as an interpretive practice as:

An interpretive process that involves deep knowledge and continuous observation, analysis, and responsiveness to the interrelationship among learner characteristics, learning, subject matter, pedagogy, and learning outcomes. Further, the design of teacher preparation programs is responsive to existing and new knowledge in the field, local and national needs, and state and national standards for the teaching profession and for teacher preparation. (p. xi)

Learning teaching as an interpretive practice is intended to develop specific understandings of professional practice. Hollins and Warner (2021b) describe the outcome for learning teaching as an interpretive practice where:

Candidates develop the insight and flexibility for adapting teaching practices for students with different needs and those from diverse cultural and experiential backgrounds, and changes in curriculum standards and district mandates. Program graduates' knowledge and skills are valued by administrators and colleagues. (p. 29)

The need for the development of these specific understandings and practices is evident in discrepancies in the learning outcomes for underserved students in public schools in the United States.

Sustaining Teaching as a Profession

Academic culture of practice

In an academic culture of practice teachers and teacher educators rely on *academic knowledge for practice* that has been generated through research on practice and knowledge from practice based on observation and documentation. Academic knowledge for practice is translated into protocols, practices, and procedures; then, tested and validated. The conditions for the application and limitations of knowledge for practice are made explicit.

Professional protocols refer to formats or structures for aspects of the profession that form the basis for consistency, order, and unanimity. Examples of practices that require specific protocols include planning, documentation, observation, and assessment. An example of a protocol for planning includes a class profile based on individual student inventories, learning goals, an approach with embedded epistemic practices, aggregate learning experiences, and formative and summative assessments (HOLLINS, 2019). The components of this protocol are interrelated and interdependent. This increases the transparency of teaching for observation by candidates and researchers. Another example of a professional protocol is one for documentation related to teaching practices that includes notations on successes, challenges, adjustments during enactment of learning experiences, and any additional adjustments needed. This type of documentation reveals which students struggled with what and how. This data can be used by researchers in determining the strengths and weaknesses in teaching practices and identifying interventions and alternatives. These two examples illustrate the importance of professional protocols for the continuous improvement of practice across contexts and for students with different needs. Professional practice requires that specific protocols are known and consistently followed by all trained practitioners.

A teaching procedure is an aspect of a teaching approach characterized by an interconnected sequence of actions that engage students in a learning cycle or process with specifically intended outcomes designed to support increasingly complex subsequent learning. An approach for teaching is a theoretically based conceptualization for facilitating learning academic skills or subject matter. A teaching procedure is used to introduce or facilitate learning subject matter, concepts, principles, or skills that are part of a larger category of disciplinary knowledge or practices.

Teaching practices are the arrangements and conditions for learning and student development characterized by coherence and continuity in the use of approaches, protocols, and procedures. Teaching practices incorporate core academic knowledge and knowledge for practice.

The core academic knowledge and knowledge from practice includes knowledge of students, pedagogy, and subject matter, and the interdependence of these elements for planning learning experiences that meet specific learning outcomes. Research on practice addresses these three factors and develops and validates the efficacy of specific protocols, practices, and procedures. Knowledge from practice is focused on the observation and documentation of students' responses to learning experiences and the extent to which learning expectations are met and adjustments needed for specific individuals and groups when using validated approaches.

Knowledge from practice

Knowledge constructed from practice is essential in the interpretive process required for facilitating student learning. In this interpretive process, teachers make careful observations and document students' responses to learning experiences as the basis for making appropriate adjustments to facilitate deeper learning

and for meeting expected learning outcomes. Professional knowledge requires understanding what evidence to collect in a specific situation to determine the approach needed for achieving the expected outcomes. This type of academic culture of practice requires a knowledge base and teacher preparation with clinical experiences that address central questions related to academic knowledge and interpretive practice. For example,

- (α) What academic knowledge about child and adolescent development and what experiential knowledge of individuals and groups are required for framing the curriculum and planning learning experiences to meet expected learning outcomes?
- (β) What knowledge of a specific discipline is required for supporting students in developing cognitive structures for processing new information and retrieving information stored in memory?
- (χ) What knowledge of pedagogy is required for designing learning experiences that support students in developing powerful cognitive structures.
- (δ) What is the dynamic interaction among knowledge of learners, pedagogy, and subject matter that supports the development of powerful cognitive structures and deep academic and experiential knowledge?

Research on practice

Strategically focused research on practice aims to identify and address issues that influence the quality of teaching practices and students' developmental outcomes. This type of research requires attention to the social context in the classroom, the framing of the curriculum, the designing and sequencing of learning experiences, and students' responses to the classroom context. Essential aspects of data for research on practice include the following:

- Teachers' documentation of teaching practices and observations of students' responses to classroom experiences.
- 2. Researchers' observations and documentation of teaching practices and students' responses to classroom experiences.
- 3. Researchers' interviews with teachers to determine their thinking about their planning, observations, and documentation.
- 4. Researchers' interviews with students to understand their responses to classroom experiences.
- 5. Researchers' development of testable interventions including practices, protocols, and procedures to address specific challenges indicated in the research.

Developing an academic culture of practice that supports continuous improvement begins with preservice teacher preparation. Hollins and Warner (2021b, p. 29) present a protocol for the evaluation of clinical experiences in preservice teacher preparation that includes the application of academic knowledge from coursework to practice and learning from practice how to adapt and contextualize academic knowledge for students with different

needs and with diverse cultural and experiential backgrounds. This conceptualization requires that academic knowledge presented in courses is valid and reliable and can be observed, analyzed, and applied in classrooms, schools, and communities. Course assignments include observation, documentation, analysis, and application of academic knowledge from coursework to practice in clinical experiences. In this process, candidates develop the habits of mind necessary for participating in an academic culture of practice for teaching.

Systemic practices for school services.

In this conceptualization, teaching and teacher preparation are parts of an academically based education profession. The practice of an academically based education profession requires that *all services* provided under the authority of state accredited P-12 schools, school districts, and teacher preparation programs apply the best available theory, research, evidence from practice, and knowledge of participants. Developing academically based professional practices requires planning, documentation, and assessment.

Box 1: Systemic Practices for School Services

ATTRIBUTES	REQUIREMENTS	
Planning	All proposed education services or changes in services are presented in a plan with the supporting knowledge base including the theory, research, evidence from practice, and knowledge of participants. All plans include goals, objectives or indicators, strategies, and measures of outcomes.	
Documentation	Initial documentation of readiness for participation (prerequisite knowledge and skills) includes surveys, interviews, testing, or strategic observation. Subsequent documentation includes evidence of participants' accomplishments, challenges, and development.	
Assessment	Evidence of accomplishments or growth from starting point to end of participation, including progress in the application of new knowledge or skill to practice.	

Planning, documentation, and assessment constitute a dynamic cycle that is essential for improving teaching, learning, and other academically based professional education services.

Academically based school practice requires that all proposed education services or consequential changes in services are presented in a plan that includes the theory, research, evidence from practice, and knowledge of participants (see Box 1). Education services include classroom practices, school and district policies, after school programs, and external support services. Evidence from practice and knowledge of participants require documentation and the use of specific approaches and tools for data collection. For example, changes in an aspect of the curriculum or supporting material such as a textbook series for teaching reading require evidence for the potential benefit of the change based on specific knowledge of the past performance of students and researched evidence on the effectiveness of the new approach or material for improving student performance. All plans are determined to be appropriate for the developmental needs of participants based on practitioners' documentation and observations of practice and students' responses to their academic and social experiences. Each education practitioner is responsible for the routine documentation of professional practices, including strategies and outcomes for individuals and groups served.

Purposeful and consistent documentation informs all aspects of professional education practice. For example, knowledge of students is essential for framing the curriculum, selecting instructional materials, and designing learning experiences. Documented evidence for knowledge of students can be gleaned from at least four sources. First, academic knowledge of child and adolescent growth and development based on the best available theory, research, and evidence from practice provides a general framework for understanding students. Second, individual student inventories and class profiles provide insight into students' cultural and experiential back-

grounds, and commonalities and differences among students, that support framing the curriculum and selecting instructional materials (HOLLINS, 2019). Third, evidence from the preassessment of readiness for learning new subject matter or skills determines mastery of perquisite knowledge and skills. This type of preassessment enables the teacher to provide learning experiences that correct misinformation, gaps, and deficits in knowledge and skills that thwart learning new knowledge and skills. Fourth, the documentation of professional practices and observations of students' responses provide evidence for determining the effectiveness of specific approaches and adjustments required for individuals and groups with specific needs, challenges, or concerns.

In addition to indicating readiness and progress towards achieving specific objectives or outcomes, assessments provide documentation for the application of an approach under specific conditions and indicate the effectiveness, limitations, and risks for different individuals and groups of participants. The evidence from assessments provides information for adjusting learning experiences to improve learning outcomes for individuals and groups with different needs. For example, detailed analysis of documentation and assessments for individuals and groups of elementary students performing two or more years below grade level in reading or mathematics at 6th grade can reveal patterns in their performance associated with prior academic experiences across grade levels, specific aspects of the curriculum sequence, instructional approaches, learning experiences, or instructional materials. This type of detailed analysis of documentation and assessment provides opportunities for developing supplementary practices to ensure that students meet grade level expectations without remediation, as well as opportunities for developing effective interventions for students who have not met grade level expectations.

Comprehensive assessments combine evidence from multiple sources to determine the effectiveness, limitations, and risks as well as the interactions, outcomes, and impact of developmental sequences that are academic, social, and psychological situated in different contexts, under different conditions, and with different populations over time. For example, a comprehensive assessment of literacy development in grades K-4 including evidence for approach, materials, individuals with different needs, and different groups of students in different locations could provide information for alleviating disparities in learning outcomes. Similarly, a comprehensive examination of the conceptual organization in the curriculum across the discipline in mathematics and instructional approaches in secondary schools could provide the knowledge needed for reducing the number of entering college freshmen needing remediation in mathematics. Such comprehensive assessments of educational practices provide opportunities for adjusting and expanding the shared knowledge base for all education services and improving collective and longterm outcomes and impact.

Regulating the Quality of Teacher Preparation

Multiple agencies and organizations regulate, influence regulations, or set standards for preservice teacher preparation, including state departments of education, national accrediting agencies, the United States Department of Education, professional organizations, other stakeholder groups such as the Council of Chief State School Officers' Interstate New Teacher Assessment and Support Consortium (INTASC), and individuals such as Charlotte Danielson's Framework for

Teaching. Each of these entities contribute to the knowledge base for teaching and teacher preparation. However, in the present context of professional education practice, each of these entities contributes to the fragmentation of the profession. For example, some teacher preparation programs are accredited by the state department of education alone or through agreement with a national accreditation agency, others are accredited by one or the other national accreditation agency. Some programs apply state standards, some apply the Danielson framework while others apply the INTASC standards. These variations in accreditation and standards contribute to inconsistencies in the knowledge base for teaching and teacher preparation. Further, instantiating the knowledge base for teaching and teacher preparation in different program accreditation requirements and various standards increases the complexity in the challenges for improving teaching effectiveness and learning outcomes for different populations of students in P-12 schools.

Regulating the quality of teacher preparation requires identifying attributes, quality indicators, and sources of evidence for establishing the conceptual integrity of teaching practices and teacher preparation. Conceptual integrity refers to the strength of the interrelatedness of the parts that include (a) trustworthiness of the academic knowledge base for teaching and teacher preparation; (b) the consistent application of academic knowledge to practice in clinical experiences and in regular classroom instruction; and (c) documentation and data collection that provide evidence of outcomes and impact, and support opportunities for adjusting and expanding the academic knowledge base, improving teaching practices and learning outcomes (see Box 2).

Box 2: Essential Factors for Regulating Teacher Preparation Quality

ATTRIBUTES	QUALITY INDICATORS	SOURCES OF EVIDENCE
Trustworthiness of the academic knowledge base	Academic knowledge from coursework can be observed, analyzed, or applied to practice in classrooms, schools, or communities. Academic knowledge for teaching can be adapted and contextualized for students with different needs and with diverse cultural and experiential backgrounds. Academic knowledge applied to practice generates the expected outcomes.	Candidates' learning experiences and assignments from course syllabi; journals, and other notes kept by candidates related to their clinical experiences; mentor teacher preparation syllabi; and mentor teachers' documentation.
Consistency in outcomes and impact	Candidates develop the insight and flexibility for adapting teaching practices for students with different needs and from diverse cultural and experiential backgrounds, and changes in curriculum standards and district mandates. Students regularly meet expectations for grade level and subject matter or the minimum of one year's growth for one year's instruction in academic subjects. Program graduates' knowledge and skills are valued by administrators and colleagues.	Documentation by mentors and supervisors during observations of clinical experiences; documentation in candidates' notations; summative assessments, including performance and licensure assessments; multi-year follow-up with program graduates; P- 12 student learning outcomes; and feedback from administrators and colleagues.
Data collection for monitoring and improving practices, outcomes, and impact	Data collection provides evidence for the trustworthiness of the knowledge base for teaching and teacher preparation and/or evidence identifying areas for improvement. Data collection provides evidence for the outcomes of previous changes in the knowledge base or the preparation program, including clinical experiences.	Description and explanation of the approach to data collection, including triangulation across data sources, findings, and examples of the instruments used.

Adapted from: Hollins and Warner (2021b).

The attributes, quality indicators, and sources of evidence that establish conceptual integrity are interdependent elements for determining teacher preparation quality regardless of the accreditation agency or standards used for program design. Using *conceptual integrity* as the touchstone or benchmark in regulating teacher preparation quality holds potential for increasing consistency in the academic knowledge base, practices, and procedures across programs and for decreasing

disparities in learning outcomes for different populations of students.

Continuous Improvement of Practice

The continuous improvement of practices in teaching and teacher preparation is complex. New knowledge from research requires specific conditions for application to practice. First, applying new knowledge from *research*

to practice requires translation for practice into protocols and/or procedures that can be tested and validated, and making the conditions and limitations for use explicit. Second, the preparation of faculty, practitioners, and candidates, including the consistent implementation of new practices, protocols, and procedures for teaching and teacher preparation requires developing an academic culture of practice (BAMBRICK-SANTOYO, 2012). Third, the dissemination of new knowledge for practice requires identifying or developing trusted publication sources and other venues easily accessible for all professional practitioners, scholars, researchers, and teacher educators (WILLIAMS, 2016).

Transforming Public Schools

Many countries with multi-cultural, multi-lingual populations and with social class stratification experience challenges in providing equitable learning outcomes for children and youth from low-income and diverse experiential backgrounds (ABADZI, 2008). In many instances, underserved students are from ethnic minority groups. Over the past several decades scholars have crafted many different explanations for this phenomenon. For example, some scholars have identified the correlation between family income and academic learning outcomes as explanatory (PAYNE, 2005; BREGER, 2017). Other scholars argue that when curriculum framing and learning experiences are directly related to what learners know and have experienced, traditionally underserved students' academic performance improves (HOLLINS, 2015; 2019). These explanations for students' academic performance have influenced changes in the knowledge base for teaching. However, these changes have not resulted in adjustments in teaching practices and procedures powerful enough to consistently eliminate the persistent disparities in learning outcomes.

The Present Context of Schooling in the United States

Discrepancies in the shared academic knowledge base and the absence of a systematic approach to learning from practice are evident in student underperformance and the disparities in learning outcomes across schools, school districts, states, and clearly identifiable groups. For example, based on the United States National Center for Educational Statistics (NCES) in 2019 before the COVID-19 pandemic, at 8th grade, 34% of students performed at proficient in mathematics and reading. The academic performance of African American and Hispanic students was well below the national percentages. In reading at 8^{th} grade, 7% of African American students and 20% of Hispanic students performed at or above proficient. In mathematics at 8th grade, 15% of African American students and 22% of Hispanic students performed at or above proficient.

The claim that learning challenges are entirely located in the life conditions of ethnic minority students is contradicted by inconsistencies in the academic performance and learning outcomes for traditionally underserved students across schools, school districts, and in different states within the United States. The wide variation in the performance across the participating Trial Urban District Assessment (TUDA) districts as represented in the National Assessment of Educational Progress (NAEP) data is one indication that life conditions of ethnic minority students may not be an accurate predictor of learning outcomes. In 2019, three TUDA districts serving more than 75% ethnic minority students with a range of 38-59% of students eligible for free or reduced-price lunch (FRP) matched or exceeded the national percentage of students performing at proficient or above in reading at the 8th grade. Further, there was a notable variation in student performance among districts with similar demographics. For example, Miami-Dade school district with 94% ethnic minority students and 55% FRP had 32% of students perform at proficient or above. Houston school district with 90% ethnic minority students and 59% FRP had 18% of students perform at proficient or above. These data indicate that ethnic minority groups and social class status do not fully explain students' academic performance in school. Payne and Ortiz (2017) point out that:

[...] acknowledging the profound influence of family and neighborhood ... on the development of children does not necessarily tell us much about the power of schools to counter problems generated elsewhere. Stressing the *typical* causes of failure does little to help us think about what schools *could* do. Much of this narrative is built around the fallacy of conflating correlations with causation and causation with change, overlooking the fact that a pattern that has been caused by one thing may be changed by another (p. 35, emphasis added).

Resolving this situation requires strategically focused research on practice, developing an academic culture of practice in teacher preparation and professional practice, and learning in and from practice how to adjust learning experiences to accommodate differences among students.

Changing the Present Context for Schooling in the United States

Changing the present context for teaching and student development requires an academic culture of practice grounded in sound theory, research, and continuous documentation and analysis of students' progress relative to specific experiences. This requires that school and district policies take into consideration expectations for student development in specific areas. For example, school district policies on student behavior need to take into consideration affordances, guidance, and constraints in relationship to developmental outcomes that are academic, social, and psychological, short-

term and long-term benefits and consequences for different subgroups within and outside of school. Similarly, changes in the curriculum, instructional approaches, and textbooks take into consideration detailed evidence on strengths and weaknesses in facilitating specific expected learning outcomes for different subgroups of students.

Developing an academic culture of practice for teaching requires a transformative approach that is academic, cognitive, and social (BAMBRICK-SANTOYO, 2012). This approach requires grounding in sound research and theory and providing opportunities for participants to think deeply about their teaching practices while documenting students' responses to learning experiences and engaging in meaningful and productive dialogue with colleagues. Hollins (2012) used a process referred to as structured dialogue to support teachers in developing shared knowledge, practices, and procedures for improving literacy learning for children in grades K-4 in an urban school setting. Hollins (2012) describes the approach in the following statement:

The approach in this project was based on sociocultural and situated perspectives on teacher learning and was designed to transform an active process of social discourse and relationships among teachers, and to provide organic mediation for disrupting and reconstructing knowledge in practice. The approach consisted of three parts—structured dialogue, an organizational structure, and the documentation of practice. (HOLLINS, 2012, p. 24)

This approach to reconstructing knowledge in practice proved effective and sustainable for seven years after the research project ended. After seven years of students meeting high expectations in literacy learning, teachers abandoned structured dialogue and the documentation of teaching practices. Gradually, teachers returned to their earlier practices with most of their students failing to meet grade level expectations (HOLLINS, unpublished paper). It is important to point out that consistent documentation is a characteristic

of many other professions and occupations; however, it is not consistently found in teaching practices.

The documentation of practices and students' responses is especially important for the continuous improvement of practice for individual teachers and for research that improves the profession through advancing shared knowledge, practices, and procedures. The documentation of practice can help practitioners and researchers identify and locate specific problems of practice and develop effective interventions.

Failure to document teaching practices and students' responses or to analyze the alignment of curriculum framing and learning experiences with records for students' knowledge, experiences, and values can lead to unsubstantiated and easily contradicted explanations for students' academic underperformance and result in the development of ineffective interventions. Accurately locating the challenges and developing productive practices for achieving the expected grade level and subject matter learning outcomes for underserved students is pivotal.

Historically, many scholars and researchers have located these challenges in students' life conditions such as family income, parent education level, and literacy learning opportunities in the home. A wide range of interventions have been developed to address these life conditions including early preschool education, special instructional interventions, emotional and social development support, language learning support, and special focus schools. The effectiveness of these efforts has been limited and inconsistent.

Conclusion

This discussion has focused on developing and sustaining teaching as a profession and transforming teaching practices in public schools. The primary challenge for teacher preparation is developing a trustworthy academic knowledge base and teaching practices and protocols that will prepare teachers whose students consistently meet grade level and subject matter expectations, including students from diverse cultural and experiential backgrounds and with different needs. Meeting this challenge requires that academic knowledge from coursework can be observed, analyzed, and applied to practice; and that candidates are provided opportunities and guidance for the application of academic knowledge to practice, and learning from practice how to adjust learning experiences for differences among students.

Sustaining the teaching profession requires developing an academic culture of practice, establishing executive conventions for professional education practice, and regulating the quality of teacher preparation based on conceptual integrity. Executive conventions based on conceptual integrity provide a construct for understanding, developing, and evaluating approaches to professional practice in teaching, teacher preparation, and school services. The executive conventions presented in this discussion are interrelated across contexts and purpose in supporting the application of academic knowledge to practice. This provides opportunities for the continuous improvement of practice and outcomes through research on practice and summative and comprehensive assessment of approaches to practice.

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