I am delighted to have this opportunity to address the Trustees of Indiana University. Thank you to Bruce Cole for the invitation, and to my fellow panelists for what I know will be deeply insightful comments on the future of K-12 education.

**Holding ourselves accountable**

I want to begin at the level of state policy on the topic of accountability, for the simple reason that teacher preparation has been an almost entirely unaccountable enterprise. As you know, Indiana is incorporating value-added measures into its teacher evaluation process beginning in the coming school year. The vision for this policy is ambitious. Under the new, multi-dimensional evaluations, individual teachers will be held accountable for student learning outcomes, and school and district leaders will be able to identify and reward the best teachers and support or remove the least effective.

I should add that strong accountability systems depend on good curriculum and far more probing and demanding assessments, both of which are a work in progress across the country. But teacher accountability will be important steps forward. When I was Commissioner of Education in New York, I advocated successfully for a similar system based on compelling research on the power of value-added measures to help predict future student performance inside and outside the classroom. Since then, new research has deepened that evidence, including the Gates Foundation’s Measures of Effective Teaching project¹ and statistical analysis by Jonah Rockoff of Columbia University and colleagues at Harvard.² Any evaluation system will be imperfect, and Indiana’s timeline sensibly leaves room for experimentation by districts and the discovery of best practices. But a consistent, objective, normed method of rating teacher effectiveness must be the foundation of efforts to improve teacher quality.

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What are the implications of all this for teacher preparation programs, such as those at IU campuses? I would argue that, as we begin to hold individual teachers accountable for student outcomes in a meaningful way, we should also hold schools of education accountable for the effectiveness of the teachers they put into schools. We need to take everything we know about teacher effectiveness and use it to evaluate and improve our ed schools, beginning with backward-mapping value-added scores and other evaluation components from teachers to the programs that prepare them.

The gold standard would be a full dashboard for every teacher prep program that shows graduate performance across a full range of metrics, and then real consequences, including closure, for under-performing programs and/or schools.

The Dashboard would include such evidence as:

- *Performance evaluations*, including value-added scores and rubric-based principal observation scores;
- *Employer and employee survey results*, with data backward mapped to the individual teacher preparation programs to show specific program strengths and weaknesses
- *Assessments* results of the program’s teacher candidates, including average scores for Praxis or other (preferably stronger) content tests, undergraduate GPAs, and the forthcoming test of pedagogical knowledge Indiana is developing with Pearson
- *Placement and retention data*, including whether and where graduates are employed and how long they remain in the classroom, broken down by grade level, subject, and school type

Obviously, this would be useful to consumers and regulators, who have their own reasons for wanting to identify the strongest and weakest programs. But, as Dean of a school of education myself, I see a host of advantages to the programs. Any good ed school is already on the lookout for ways to assess its performance and improve; these dashboards would provide more and better data to do so than we have ever had at our disposal. Clear and consistent metrics will also empower Deans to make real changes in the way teachers are prepared – changes that I believe are sorely needed to discharge our public mission. Finally, the medium-term effect of multiple levels of accountability will be, if we are careful, to improve the quality of teachers and thus respect for the profession. My strong recommendation to you as Trustees is to implement this kind of reporting as soon as possible with as much data as your institutions and state can currently provide.

You would be also positioning IU for the almost inevitable future: Federal Title II reporting requirements will likely begin to request this kind of data in the next year or two, and a few states, like Louisiana and Florida, have already implemented strong accountability systems. But I am not so naïve as to believe that a single ed school – or even a network as large as IU’s – can implement a full change like this single-handedly. Thus I would invite you to use your good offices with the State Department of Education to move the entire state quickly toward a robust accountability system for ed schools. The result of these efforts would be to allow you, as Trustees, to hold your schools
accountable for producing not just passable teachers but truly effective – even highly effective - teachers.

Let me now turn to some more tactical recommendations to improve the quality of the teachers IU produces, across three areas: higher admissions standards, enhanced programs, and improved assessment of candidates.

**Higher admissions standards**

Improving teacher quality begins with recruiting more-qualified teacher candidates. You may well be familiar with the McKinsey report finding that the top-performing school systems around the world all recruit teachers from the top third of college graduates, and we all know how far the United States is from reaching that standard. We cannot leap from poor to great on this metric overnight, but education schools can lead the way in a few small steps in the right direction.

First, we should raise the undergraduate GPA we require of applicants. A teacher’s cognitive skills have been identified as a major factor in her or his ability to drive student learning. GPA is a proxy – imperfect, yes, but a proxy nevertheless – both for basic academic ability and for stamina, another valuable trait in a teacher. I recommend that IU consider raising the requirement for admission to its post-baccalaureate programs to a 3.0 or even 3.3 across the board. (IU’s flagship Bloomington campus, for example, requires anywhere from a 2.5 to a 3.0, depending on the program.) This would be a bold statement, but you would not be alone: even some states, such as Pennsylvania and Connecticut, have introduced statewide requirements of a B or B+ average.

Second, we should raise the bar on our cognitive skills testing, and for the same reason. The Praxis I - or SAT, or ACT, or GRE - is valuable as an additional, normed data point on candidates’ basic academic ability, since similar GPAs signal very different things for different majors and institutions. To take Bloomington as an example again, the Praxis I requirement is set at the state minimum of 527 – which is significantly below the median score nationally. And even this requirement is waived for students with a Master’s degree. As you know, Indiana is currently developing a new cognitive skills exam as part of the CORE exams. When it is implemented, I would urge you to consider setting a higher cut score than the median – and, likely, a higher cut score than that required by the state.

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Third, we should ensure our applicants come in with the content knowledge they need to be effective teachers. Programs vary widely in the amount of subject-area study they require of applicants, but best practice is to require, for elementary educators, a liberal arts or science major or equivalent coursework in one of the subjects taught in school (not, for example, public relations) and, for secondary educators, a major or equivalent coursework in the subject to be taught. A quick outside-in review of the requirements listed online for IUB suggests that any major could qualify an applicant for many programs; if that is correct, I would recommend tightening the requirement. When teacher preparation programs themselves require content courses (as is common for math educators, for example), the latest research into pedagogical content knowledge suggests that these courses would ideally be team taught by a mathematics professor focusing on the underlying subject matter and an education professor focusing on the pedagogical overlay. As it turns out, the math that teachers need to know is actually different in important ways from the math mathematicians need, and our programs should reflect this.

Enhanced programs

Once an applicant becomes a teacher candidate, there are a number of ways education schools can serve them better; I want to propose three. My first recommendation here is probably the most radical one I’ll make today: I propose that IU’s ed schools, over time, follow the example of the School of Education at John’s Hopkins University and eliminate the tenure system and require that at least half of future faculty appointments be clinical. The standard university system of tenure and the emphasis on research in faculty hiring and promotion decisions may be sensible in an English or Chemistry department, where free intellectual inquiry is arguably an important end unto itself. But in ed schools, this model often unjustly shifts the focus of faculty and staff away from preparing effective classroom teachers and puts a premium on research that is often far removed from teacher preparation. We should emphasize clinical preparation and candidate learning instead – another way to take on accountability for our missions.

Second, I propose that you insist that your ed schools prepare teachers to thrive in the classroom of tomorrow – which, in many case, is the classroom of today: we already see much greater incorporation of multi-media and other technologies throughout the country. Teachers should begin their first jobs knowing how to publish learning resources online, produce digital multimedia materials and use them effectively, and differentiate instruction with technology. Those items are from our requirement at Hunter College; the IU system should clearly define its own set of core skills and knowledge teachers need to use educational technology effectively and require programs to convey them.

As a final recommendation to enhance programs themselves, I propose that you disaggregate the P-12 special education programs at your East, Northwest, South Bend, and IUPU-Indianapolis campuses. The needs of special education students vary considerably across grade level, as they do for other students. It is appropriate for teacher prep programs to recognize this and tailor their offerings accordingly. Many, but not all,

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5 For a complete list, see [http://soe-server2.hunter.cuny.edu/assessment/compslistdraft.html](http://soe-server2.hunter.cuny.edu/assessment/compslistdraft.html).
IU programs do focus on a narrower age band. The National Council on Teacher Quality has recommended that Indiana break the special ed certification down at the state level, until that happens, IU can lead the way by bringing all of its programs in line with the NCTQ recommendation.

**Improve assessment of candidates**

I want to conclude with two recommendations for how IU can better evaluate its teacher candidates to ensure their effectiveness on day one of their future teaching assignments. First, I propose that IU ed schools provide consistent training for faculty observers using a major national rubric – ideally one tied directly to the forthcoming statewide test of pedagogical skills. This training should be required for all observers in certification programs and available to all faculty, and it should ensure normed results by using standard video clips for calibration. This will not only ensure fairness to candidates but provide both them and their instructors with much richer, more reliable data on their progress toward competence, and relieve the current situation in which the feedback teacher candidates receive is utterly dependent on the (untrained) individual providing that feedback.

Finally, as Indiana develops a robust online assessment of pedagogical skills comparable to the Teacher Performance Assessment out of Stanford, I would urge you to implement that test, or a similar video-based assessment with alacrity. Federal requirements are moving in this direction, but more important, a test like the TPA fills a critical need for a reliable, external, video-based assessment of teaching effectiveness. Hunter has been one of the pioneers in using video to teach and evaluate our candidates, and I can say from experience that this is a tool worth using universally. Schools who now use our video analysis tools for professional development report that it is the most powerful PD they have ever done.

There is much more to say, but I will pause here for the moment. Thank you for your attention. I look forward to the conversation to follow.

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It is an exciting time to be discussing education policies. This country is in the midst of trying to change all aspects of public education, beginning with K-12, in order to turn around what most of us agree is a dysfunctional educational system. This country spends more on education, and more per student in K-12, than any other country in the world. Yet, we do not see the results that should flow from such a generous expenditure. Nor are the graduates of our high schools and colleges equipped with the knowledge and skills they need in a global economy. They are woefully behind their peers in many countries, both Asian and European. The component of public education that has received the least attention for reform, in my judgment, is the most important: who we recruit and how we prepare them to be teachers, administrators, education researchers, and education policy makers. I am among the many people grateful for Arthur Levine’s two reports—on preparing teachers and on preparing education researchers—and for the innovations in preparation that David Steiner has worked on.

I thank the Board of Trustees of Indiana University for the opportunity to suggest how education schools could better serve the academic goals of public education. Their graduates—teachers, administrators, and policy makers—need to be able to develop and implement stronger academic programs in all subjects in K-12. I became familiar with the K-12 curriculum and the issues in public education as an elementary teacher, a high school teacher, and a professional development provider at all grade levels and in all subjects. I became equally familiar with education schools as a graduate student, faculty member, supervisor of student teaching, researcher, and state-level policy maker.1

In my remarks, I first indicate what we know from research studies about the effectiveness of education schools today. I then offer four propositions and suggest the reforms I believe a Board of Trustees might be able to act on to increase the effectiveness of both teacher preparation and doctoral programs in education. I suggest changes in: (1) admission policies for prospective teachers and doctoral students, (2) the structure of teacher preparation programs, and (3) the supervision of student teaching.

**What We Know from Credible Bodies of Research**

What do we know about the relationship between student achievement and various components of teacher education? I draw chiefly on the careful review by the National Mathematics Advisory Panel (the Panel), of which I was a member. Its final report and its many task group reports were issued in March 2008 and still warrant close attention.

Based on the evidence from high quality research (and you must know that the Panel’s report was sharply criticized by mathematics educators for reviewing only high quality research), the Panel found no relationship between student achievement and traditional teacher education programs, certification status, and mentoring and induction programs. That means that teachers who have completed a traditional teacher preparation program, hold a teaching license, and have
participants in an induction program have no higher student performance on average than other
teachers.

In addition, the Panel found almost no evidence that professional development programs increase
student achievement, whether or not they increase teachers’ knowledge of the subject they teach.
Nor is student achievement related to whether prospective teachers graduate from a traditional
teacher education program or an alternative program. In other words, one route isn’t better than
the other, according to the research evidence.

However, the Panel was able to find a body of credible research on one very important matter—
the characteristic of an effective teacher. It found teachers’ knowledge of the subject they teach
significantly related to student achievement. In other words, the more academically competent the
teacher is, the more students learn. There may be other characteristics of an effective teacher, but
so far no credible body of research has told us what they are.

Part of the problem lies with educational research itself. Over 16,000 potentially relevant studies
were located by Abt Associates for the Panel’s consideration. But Abt judged only a tiny number
worthy of review. The Panel would have had far more to say to address its charge, which was
how we should prepare all students for success in algebra I based on the best available research, if
more education research had been of high quality. So, where do the Panel’s findings point us? I
offer four propositions and several reforms that address each one.

I. All teachers should be fully academically qualified at the beginning of their teaching
career for the grade levels and subjects they are licensed to teach. We begin to address this
proposition by reconsidering whom we admit into a teacher preparation program. In such high-
achieving countries as Singapore, South Korea, and Finland, this takes the form of a very high
academic bar for admission. Admission to a teacher training program is highly competitive; only
students in the top 10-20% of their high school or college cohort are admitted to an elementary or
secondary training program. I am aware that Indiana University has already begun to raise
requirements for admission to undergraduate teacher preparation programs with respect to high
school SAT scores and GPA. The dean and the Trustees are to be applauded for that effort.

As you may know, your neighbor Illinois is trying a different approach. Two years ago, its Board
of Education strengthened its test of basic academic skills, now called TAP (Test of Academic
Proficiency), and set a high bar for passing. As was the policy, only college sophomores who
passed TAP could be admitted to a teacher preparation program. In one year after setting a high
bar, the number passing the basic skills test dramatically decreased, affecting enrollment in many
preparation programs. Nevertheless, on June 20, 2012, the ISBE re-affirmed the high cut score,
which had been recommended by the state’s commissioner of education and department staff.
While a very high percentage of minority test-takers failed this test, no one argued that minority
children would benefit from being taught by academically under-qualified minority teachers. The
solution will be to increase the pool of strong minority candidates.

Suggested Reforms:
1. Continue upgrading the qualifications for admission to undergraduate teacher
preparation programs. The Indiana University Board of Trustees could do so by requiring (1) a
test similar to Illinois’s TAP and a high cut score (regardless of other tests they have taken for
admission to the university), and (2) a reduction in size in large programs whose numbers show
little relationship to employment possibilities in Indiana’s public schools. The ISBE could justify
its high cut score not only because all children deserve academically competent teachers but also
because enrollment in K-12 is declining in the state and teacher preparation programs produce a large oversupply of teachers, especially in elementary and social studies education.

2. Eliminate undergraduate teacher preparation programs altogether, a policy recommended in 1986 by the Holmes Group, a group of reform-minded education school deans. The Trustees could do so simply by voting that undergraduate education courses not count toward an undergraduate or graduate degree for anyone, including prospective teachers. If undergraduate teacher preparation programs are eliminated, a high cut score on an admission test for a post-baccalaureate teacher preparation program would easily be justified; test-takers have, after all, already completed an undergraduate degree program.

Other research would support such action. Many studies have found no relationship between student achievement and master’s degree programs in education, most of which are for those already holding a teaching license from an undergraduate program. Their value is only for a salary increase. These particular master’s degree programs should be abandoned if they cannot be academically strengthened, leaving in place only the M.Ed. program that is a post-baccalaureate teacher preparation program and the MAT program in which at least half of the graduate coursework is in the discipline the aspiring teacher intends to teach. Unfortunately, few teachers today (before or after beginning a teaching career) earn a MA or MS degree in their subject area (a degree that tends to guarantee demanding subject-specific coursework), creating a new problem for our schools that few people are aware of; few K-12 or 6-12 curriculum directors are apt to have more than a major in the discipline they supervise, or in more than one of them if they supervise many subjects, leaving them unable to offer expert advice on high school textbooks, course sequences, and course content.

II. Doctoral programs in education need to be strengthened in order to improve the quality of education research and public policy. Just as this country needs to upgrade the qualifications for admission to a teacher preparation program, so, too, do the qualifications for admission to a doctoral program in education need to be upgraded. It is mind-boggling to think that over 15,000 of the 16,000 studies located for possible review by the National Mathematics Advisory Panel had to be discarded because they failed to meet minimum scientific standards in their design and claims. To address this problem, the Panel’s Subcommittee on Standards of Evidence recommended that “the rigor and amount of course work in statistics and experimental design be increased in graduate training in education.” I strongly support this recommendation based on my six years of experience as an editor of Research in the Teaching of English, a NCTE journal. I spent much of my time helping graduate students and faculty members in education schools and the arts and sciences to shape their manuscripts into publishable articles for the journal once it was clear they had a suitable design and a systematically gathered dataset. The majority of manuscripts submitted were rejected based largely on peer reviewers’ comments.

1. Require a MA or MS degree in a subject taught in K-12 for admission to a doctoral program in education. This requirement would upgrade the caliber of doctoral students in one stroke. It would also necessitate the availability of academically relevant summer coursework, tuition for which should be paid for in part by the state or local board of education, not only by teachers themselves.

2. Require strong coursework in statistics and experimental design in all doctoral programs in education. It is not just research in mathematics education that is weak in design or execution. The bulk of education research in other areas (e.g., written composition) is also of variable quality. The Board of Trustees might request a report on the strengths and weaknesses of its own
doctoral programs in education and on the quality of the dissertations and research completed by those affiliated with the University.

III. Structural changes in teacher preparation programs will increase the academic competence of new teachers. My suggestions are based on what takes place in countries noted for producing high levels of achievement in mathematics. In a common European model, prospective secondary teachers are trained under the aegis of the academic discipline they have majored in and often obtain a master’s degree in, with pedagogical faculty (who may be similarly-trained secondary teachers of the subject) attached to the discipline, not an education school. Liberal arts departments in this country may not at first welcome the responsibility, but since they deal with the results of high school training, they alone can make valid connections between the high school curriculum in their discipline and what they expect in their own coursework. These links once existed, but were severed over 80 years ago at the time education schools developed. According to Sidney Hook, liberal arts faculty abandoned the public schools and left all pedagogical training and K-12 curriculum design to education schools.

In contrast, for pre-school, kindergarten, and perhaps primary grade teachers, we should consider a separate structure, possibly two- or three-year pedagogical institutes, as exist in many European countries, in which a pedagogical faculty concentrates on teaching top high school graduates how to teach beginning reading, writing, and arithmetic. It is not necessary for prospective pre-school and kindergarten teachers, in particular, to complete a liberal arts major in a four-year college. Moreover, if we held education school faculty accountable for children’s achievement in literacy and numeracy in their graduates’ primary grade classrooms, we would place accountability precisely where it belongs and start to reduce the limitations in the training of those who teach beginning reading, especially

The Finnish model, about which we have heard a great deal in recent years, dates from about 1970 and differs from the other model in a few ways. All prospective teachers in Finland must now be trained at one of eight universities in the country. Prospective elementary teachers are admitted to a five-year program in Educational Science consisting of a three-year B.A. degree program followed by a two-year master’s program in education. Prospective subject teachers usually complete a three-year B.A. degree program and two-year master’s program in their subject, followed by a two-year master’s program in education. The 1970 reforms upgraded the master’s program in education for both types of teachers, focusing them on rigorous educational research. Unlike prospective elementary teachers, subject teachers are supervised by faculty with joint appointments in the arts and sciences and pedagogy.

In both models subject teachers are expected to have a deep understanding of their subject before they begin their teaching career, and in their pedagogical training they are not separated from discipline-based faculty. This feature implies two major changes in the structure of teacher training, which only Trustees could make.

Suggested Reforms:
1. Prepare subject teachers from grade 5 to grade 12 in programs attached to the academic discipline they teach. At the very least, teachers of mathematics and science at any grade level should be prepared in programs attached to college-level mathematics and science departments. Discipline-specific pedagogical faculty would be under the aegis of the academic discipline. In this way, those responsible for the content of the discipline and those responsible for pedagogy together help prospective subject teachers work out content-based ways to address whatever problems in curriculum and instruction they encounter in student teaching.
2. Prepare teachers for pre-K to grade 3 or 4 in programs dedicated to each type of teacher of young children (e.g., pre-school, kindergarten, primary grades), with all coursework tailored to each type. Education schools at Indiana University campuses should concentrate on programs for teachers in pre-K to grade 3 or 4, linked (as they may already be) to community-based two- or three-year institutions to ensure consistency of program coursework for the different types of teachers for children. I suggest grade 4 as the upper limit because middle schools often begin with grade 5 and it would be desirable, as the Panel suggested, for schools to have full-time mathematics and science teachers in grades 5 and 6 (i.e., departmentalized instruction) instead of self-contained elementary classrooms with generalist teachers in those grades.

IV. Student teaching should be supervised by discipline-based faculty as well as pedagogical faculty. In order to implement needed changes in K-12, this is perhaps the most important area to address. The length of student teaching time is something that would be negotiated with CAPE, the re-accrediting body for education schools. But the availability of discipline-based faculty (and the time they spend) is probably a Trustee responsibility.

Suggested Reforms:
1. Discipline-based faculty should participate in supervising student teachers of their subject. Arrangements for their time need to be made by the Trustees and the arts and sciences dean and the education school dean.

2. Student teachers should be placed for student teaching in classrooms that discipline-based faculty have visited and approve of. Again, time for visiting the schools needs to be arranged for by the Trustees and the deans of the arts and sciences and the school of education.

References


I seem to be one of the few education policy makers in this country who can point to increased student achievement in all demographic groups as a result of the regulations and licensure tests I designed while at the Massachusetts Department of Education. The first goal for the regulations and tests I developed was to ensure academically stronger teachers for all students in all classrooms. The long-term goal was increased student achievement. That the long-term goal was achieved is evidenced by Bay State students’ NAEP scores at grade 4 and grade 8 in both reading and math since 2005, by their TIMSS scores in science and math (Massachusetts entered as a separate country) in 2007, by Advanced Placement course enrollment and test scores in the Bay State, and by rising scores on the state’s own annual assessments for students in both comprehensive and career/technical public high schools.