

Measuring The Cost of State High School Exit Exams

An Initial Report

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Executive Summary

In this report, Augenblick & Myers, Inc. (A&M) presents to the Center on Education Policy (CEP) a new method for estimating the cost of high school exit examinations and a report on the application of that technique in the test case of Indiana. The method succeeded in producing cost estimates for both current levels of performance and state-sanctioned higher performance targets. A&M recommends modest revisions in the approach before it is applied again.

Because the exit exam culminates the education that precedes it, the methods used to study its costs should reflect the characteristics most likely to influence its cost. Exit exams so far are state-centered and serve as a unification point for the state education system. Hence, the methods to study their cost should be primarily state-centered rather than comparative. Similar arguments are presented here about why the study should include indirect costs for which the exit exam's role is clear, should focus on the costs of the "exit" aspect, and should include the costs of meeting higher standards as well as the cost of current performance. In turn, these adaptations of scope to substance support attention to current and future programs, not merely past ones, and the systematic use of interviews to supplement documentary evidence.

The method chosen by A&M to study exit exams reflects the broad methodological choices dictated by the nature of the exams. The core technique is the use of diverse panels of experienced service providers to estimate the resources needed because of the Graduation Qualifying Examination (GQE) in a hypothetical school district. This "professional judgment" approach is adapted from A&M's studies in various states of the cost of an adequate education. Along with the district panels are included supportive techniques such as a nominating committee and a statewide review panel. Interviews with key personnel and formal documentary evidence provide the basic information with which the panels can operate and with which A&M interprets the panel results.

By agreement with CEP, we selected Indiana as the test case and, as agreed, applied the method there. The method succeeded in producing estimates of the costs of current and improved levels of performance, estimates that appear to be reliable within a 5-10% range. However, efforts to link cost estimates to programmatic features of exit exams or to specific resources did not turn out as well. While most procedures should be maintained intact, specific problems suggest a series of additions and revisions. Recommended revisions in the process include giving each panel a single task but offering more variety of tasks across panels. Among the possible tasks would be one or more of the hypothetical changes in exam structure, the use of a scenario that would be identical in every state, and topics studied only once in the set of states, such as the shifting of existing resources toward exit exams. We suggest that late September to mid-November and mid-February to mid-April would be better times to conduct panels.

The substantive results in Indiana indicate that the current costs of the GQE are \$444 per pupil per year. The costs are sizable, given the \$8,128 spent per pupil in 2001-2002, but generally invisible. The costs primarily occur for local programs, notably school personnel, rather than the highly visible state programs. The \$442 million cost of the exit exam, while large, may not be

highly visible in a \$8.1 billion total school budget. In addition to testing and remediation, professional development and failure prevention account for one-half of the costs. The largest share of the costs appear to be met by superintendents and principals shifting funds that are available from the state as per pupil block grants toward the students and programs critical to GQE outcomes and performance.

The costs for improving GQE performance to the state-mandated “commendable” level are estimated at 150% above current costs for the GQE, \$685 per pupil per year, for a total of \$682 million. As with the current costs, local programs account for almost all of the needed resources, and school-level teachers are the top cost item. Unlike the current costs, these could not be met by shifting resources. However, these programs are less specific to the exam than are the current costs, emphasizing education to increase the initial pass rates and emphasizing professional development, rather than remediation and testing. On the whole, the programs to improve scores follow the scenario of making interventions at critical points in the current education process in order to made permanent changes that allow students and teachers to improve the ordinary education process. They yield improved test performance because they improve education performance more generally.

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Introduction

This study reports on work done by Augenblick & Myers for the Center on Education Policy during the fall and winter of 2002-2003. The aim was to design and produce original policy research. The design task has been to create a method for estimating the cost of conducting state high school exit examinations, while the research task has been to test out that method in Indiana. The test shows that our basic method worked well, and we learned enough to suggest some changes.

- The Purpose of the Study

The growth of high school exit examinations arises from the standards-based reform movement in the states in the 1990s. Standards-based instruction clarifies what students should know, exit exams are a measure of whether they know it, and accountability provides schools with an incentive to help students prepare themselves. States have had to design and implement exit exams without research-based information about the costs of their choices. This study aims to take the initial steps toward providing information about the cost of exit exams.

High school exit examinations are high stakes tests for students, public school systems, and state education systems. Examinations have grown in popularity, and the capstone test in twenty-four states is or will be the high school exit examination. For students, the direct consequences of the test include failure to receive a high school diploma or substantive investment of time and effort in remediation. The failure rate of students on an exit exam can determine the reputation of the public school system in a district and, in some cases, can determine the allocation of resources within the system. For the states, an exit exam represents an investment in an educational strategy, one that can be used to determine the state's flow of resources.

This study focuses on the costs of these important exams that have been increasingly adopted in states. Thus far, the costs have been unknown and uncertain. In the absence of cost estimates, decisions have depended on the general desirability of the idea and goal of exit exams, on the one hand, and the undesirability of reliance on a single examination, on the opposing hand. Once exams have been adopted, standards for success have been selected without clear information on the resources needed to achieve those standards. One aim of this study is to develop a way to allow more fully informed decision-making, both by education policymakers and by the public. Additionally, the goal has been to specify the components of cost, in order to allow planning by budget-makers, departments of education, and school districts for how to meet the costs of high school exit exams.

The first step is to develop a method for estimating cost. While states vary in the form of their responses, they face similar problems involving similar resources and trade-offs. The purpose of this study is to develop a methodological framework within which the cost of each state's unique response can be estimated and common patterns clarified. Policy choices informed by research based on carefully considered methods are, in our experience, more likely to produce the expected consequences and have fewer unintended outcomes. This report is thus largely about methods. Although the methods may continue to evolve, this first step is when they most need investigation and discussion. The second step is to test the method, evaluate and refine it.

Method and substance support each other. The development of the method has as its purpose the illumination of policy choices, so part of this study is a review of what the costs of exit examinations are in an initial state. While the costs in other states are unknown and a single state is not a sufficient base for conclusions, the results in the initial state serve to suggest possible patterns to look for elsewhere.

This study does not address the costs of implementing the No Child Left Behind (NCLB) Act, though exit exams are part of the same broad movement toward standards-based assessment. NCLB does not require an exit exam, its consequences for schools start well before high school, and its standards for performance (100% pass rates) imply a quite different exam and preparation than does an exit exam. Hence, an adequate preparation for an exit exam and an appropriate implementation of NCLB might be quite different, and their costs would be the same only by coincidence.

- The History of the Project

A&M is a Denver-based consulting firm that specializes in providing technical assistance primarily to state-level policy makers, particularly legislatures and state education agencies, around education finance, governance, and school improvement issues. A&M has developed expertise in analyzing the equity and adequacy of school finance systems, linking finance to accountability.

In the 1990s, A&M conducted several studies for the Department of Education and the Department of Children, Families and Learning in Minnesota on the impact of the state's testing and graduation standards.¹ The cost of the high school exit examination that was about to be implemented was part of that work. These studies of the resources needed for such exams prepared A&M to complete further studies in this area.

Based in Washington, D.C., and founded in 1995 by Jack Jennings, the Center on Education Policy (CEP) is a national independent advocate for public education and for public schools that are more effective. In 2002, CEP published the baseline report in a three-year study of high school exit exams that was funded by the Ford Foundation.²

One outcome of CEP's initial investigation was the desire to conduct research into the cost of high school exit exams. Under a grant from the Rockefeller Foundation, CEP contacted A&M to plan and test a method for estimating the resources needed for high school exit exams.

From the start, CEP and A&M have worked to develop a method that could estimate both the current costs related to the exams and the costs related to providing students with a substantial chance of passing a test that measured what they should have learned.

A&M proposed and CEP agreed to the following tasks for A&M.

¹ Augenblick & Myers, "Description of the work done in Minnesota to estimate costs associated with new high school graduation standards," November, 1997.

² Naomi Chudowsky, Nancy Kober, Keith S. Gayler, and Madlene Hamilton, Center on Education Policy, State High School Exit Exams: A Baseline Report, Washington D.C., 2002.

1. Organize the framework in terms of the costs of programmatic choices faced by decision-makers in a state. Whenever possible, cost estimates would be specific to the program characteristics and will be separated into phase-in and recurring yearly costs. The cost estimates represent the experiences of other states that need to be adjusted by means of the use of standard units such as teaching days, average daily membership (ADM), average salary, number of schools, proportion of at-risk students, 2001-2002 school year dollars. Attention will be given to the changing cost of providing resources for changing policies.
2. Develop a methodology appropriate to the states that have exit exams now and those that might have one in the near future. To identify the significant features and variations of state arrangements, A&M would draw on the CEP's 2002 report, plus interviews conducted in the winter of 2002-2003. The focus would be on the state variation in: policies on accountability, remediation, and retakes; test examination formats, alternatives, pass rates; and extent of implementation, grades tested, and coordination with other tests and the curriculum. A&M draw upon the description of cost elements included in our report on Minnesota's exit exam. These include developing professional skills, testing, recording, remedying, informing the public, shifting resources, and saving on related expenses. Attention would be added to developments since the Minnesota report was written, notably the emphasis on a state's providing adequate resources for educational proficiency.
3. Apply the methodology to one state in order to test and illustrate the approach. Drawing upon the existing financial data and conducting interviews with those charged with administering aspects of the exit exams, A&M would describe the cost of providing students an adequate opportunity to pass a high stakes exam. The case study state selected should represent typical state exit examination arrangements, provide adequate data to make estimates, have fully experienced the exit exam process, and offer feasible arrangements for adequate interviewing within the budget.
4. Report on the methodology and its application to one state within the programmatic choice framework, explaining the procedures and the reasons for them, and using the case study as an illustration.

This report covers those tasks. Because the high school exit examination is historically and programmatically included in a broad set of standards-based testing and teaching, the estimate of costs can only be approximate, rather than representing a precise, unarguable fact.

The team conducting the study has been the following.

John Myers, a partner in A&M, oversaw the development and application of the methodology, visited Indiana, conducted panels, interviewed key personnel, provided coordination with Jack Jennings of CEP and top officials in Indiana, and edited the report.

Douglas Rose, head of Rosepol, developed the methodology, researched background statistics, visited Indiana, conducted panels, interviewed key personnel, provided coordination with Keith Gayler, Associate Director of CEP, and drafted and presented the report.

Katharine Christensen, an associate in A&M, provided office assistance, arranged travel, visited Indiana to provide support, and coordinated interviewing schedules.

Keith Gayler, in addition to his role for CEP, visited Indiana where he helped to conduct the panels and interviews, as well as provide timely information and insight.

- State Exit Exam Approaches

Broadly, there are three approaches to exit exams that we term the testing, remediation, and prevention approaches. Although there are many differences among state exit exams, the most important cost differences might trace to the broad approaches.

Testing emphasizes the actual testing of students. Supportive activities would include test development, administration, record keeping, creating alternative exams, providing accommodations for disabilities, training for administration, and arranging for retests. The state would provide a test based on the standards to be taught, and students are responsible for passing the exam. A state assessment office would bear the budgeted costs of the exam, while students would bear the largely invisible costs of their own efforts. The exit exam would serve as an incentive for marginal students to learn the material.

Remediation emphasizes efforts of service providers to move students from an initial failure on the exit examination to ultimate passage and graduation. Supportive activities would include summer school, remedial classes, tutoring, pre- and after-school programs, emphasize on test-taking skills, development of a remedial curriculum focused on core skills, adopting remedial software, learning to translate test evaluation into appropriate instruction, and alternative routing to demonstration of skills. The state and local district and school would be accountable for providing what students need to be able to pass the exam. The exit exam would serve as an incentive for schools to improve the performance of marginal students.

Prevention emphasizes changes in how instruction is conducted in order to make sure that students learn the skills they need in order to pass the examination. Supportive activities would include training teachers to better address the needs of special education students, targeting programs at students who have failed exams in earlier grades, cumulative record-keeping on individual student skills and test diagnoses, emphasizing early reading, adopting teaching technology aimed at problem students, and developing techniques to present standards-based material to special education, limited English, and at-risk students.

From a cost point of view, the three approaches cumulate in part. Testing costs are likely to be maintained at the same level under all three approaches. The costs added by the remediation approach would be maintained under the prevention focus for those students who initially fail – but the aim of the prevention approach is to reduce the number initially failing, hence the total

remediation cost. In general, the testing approach should be least expensive and the prevention approach the most expensive, with the testing approach producing the least change in individual student learning and education service while the prevention approach would yield the greatest individual and systemic change.

States may vary over time in their approach. The early steps might focus on testing, especially for exam proponents who hope for an inexpensive improvement in education by increasing student motivation. As a state confronts the reality of withholding diplomas from students who have failed the exam, the remediation approach might become more pronounced, perhaps speeded by a lawsuit. As the exam becomes institutionalized and school districts become accountable for results, service providers may move toward the prevention approach. The costs might be expected to change over time as well.

In setting standards to which schools and districts will be held accountable in the long term, policymakers might wish to be able to anticipate not just the costs of testing and not just the costs of remediation but also the costs of prevention. In estimating cost, current costs are part of the costs of meeting the standards set. From a policymaker point of view, the two sets of costs are the costs of “what is” and the costs of “what if.” The costs of the current arrangement, or “what is,” are already being paid for, while new funding would have to be found for the costs of meeting the performance standards, or “what if.” We study both

- An Outline of the Report

The following three sections discuss methods, proceeding from the general to the specific. The next section considers the larger framework of the options available for studying costs, including both what to study and how to study it. Within these options, the nature of state exit exams influences A&M’s choice of methods to be used to estimate costs. A&M’s methodological choices in turn shape the specific methods, discussed in the succeeding section. The central method adapts a “professional judgment” approach to estimating costs and adds a series of supplementary techniques. One is to use two different scenarios for two sets of panels, one focused on current costs and one focused on the costs of improvement to meet state-set levels of performance. The third methodological section reviews the techniques actually used in the test case of Indiana and includes an evaluation of the successes and topics for improvement. The technique produced the sort of specific estimates intended, but the experience suggests refinements that could be used in future studies.

The section on the cost of the GQE in Indiana provides the substantive findings. The unique characteristics of Indiana and the particular instructions to the panels shape the cost estimates. After a background review of the GQE, the section discusses the hypothetical district and test results for which panels of experts provided estimates of the required resources. The initial set of cost estimates is for the current costs of the GQE, or “what is,” and include costs of ongoing local programs, one-time costs, resources shifted from other programs, and state programs. For state programs, a distinction is made between state-provided programs and state funding for local programs. The second set of cost estimates is for the costs of improved performance on the GQE, or “what if.” These costs are entirely for local programs, include more start-up expenses, and do not involve many shifted resources. Even though influenced by the particulars of Indiana and the

premises provided to panelists, the cost estimates may also reflect patterns that could be found in other states.

The final section summarizes the methods that will be continued, summarizes the cost estimates for Indiana, and offers recommendations for improved techniques. Recommendations include the use of an identical scenario in each state studied in order to ease cost comparisons across states. The study ends with a conclusion that suggests using the method in a study of multiple states. Tables covering all data from Indiana follow the conclusion, as do appendices presenting the instructions given panels and the names of the participants in the study.

The Task

Developing a method to estimate the resources needed for high school exit exams involves facing choices about what to study and how to study it, the subject of this section. These tests are unique in being both capstone exams, so that resources expended to pass them can occur well before high school, and high stakes exams, so that resources may be expended on a series of retakes and remedies. The combination of early prevention and subsequent remediation costs makes the approach to costing out high school exit exams different from the approach to costing out other standardized exams.

- Issues and choices about what to study

Single-state or comparative? In focusing on a single state, the state's education system and history form the main context of interpretation. Causes can be identified with historical changes in the system. Because changes come in bundles, it is difficult to disentangle a package of causes and effects. For instance, the exit exam system is often changed in many aspects at once, leaving obscure which aspect produced the observed costs. In a cross-state study, the context is formed by the variations in the aspects of the exit exams. We look for similar exam provisions to produce similar effects. Though states differ in many ways, differences in exit exams provide the privileged account for differences in costs.

A&M has chosen to emphasize the single-state focus. In part, this is inevitable as the actual format, content and difficulty of the exams differ, along with the standards being taught and the cut points for passing the exam, as do also key elements of costs, such as teacher salaries. In part, this reflects the early stages of the project, as we are not ready conceptually for a cross-state study – not ready to make definitive expectations of which elements of the exams will be most important, for instance. State-focused studies, as case studies, can prepare for cross-state comparisons later on. Having taken this primary focus, however, we intend to conduct the studies in a way that permits cross-state inferences later on. For instance, we collect data on resource use separately from data on the cost of that resource. At a later stage, states can be compared in their use of resources even if their prices differ. A second technique to permit cross-state inference is to use hypothetical questions about the impact of changes in major exam variables – what would be the cost of using open-ended questions, for example? This permits comparing costs by the exit exam characteristics across states.

Direct costs or also indirect costs? The costs of an exit examination may be arranged by closeness to the test. At the near end are the costs of administering the exam that are close to the test because they are solely attributable to the test, occur at the same time as the test, and have a budget. At the far end are the costs of revising the education curriculum in state colleges, because: these revisions would be influenced by many factors, among them the national push to standards-based instruction, state tests, and – in states that have them – exit exams for graduates who expect to teach in the state; and the changes do not immediately follow from the adoption of exit exams but come about slowly and in piecemeal fashion, without benefit of a concise budget. If the more faraway effects are counted as costs, the total estimated cost of exit exams increases, possibly too much. If only proximate costs are counted, however, some inevitable aspects of the costs of exit exams may be missed.

A&M has leaned toward including two types of less direct costs: those lacking a clear budgetary record and those occurring at a later time than the establishment of the exam system. In part, these choices reflect our understanding of how state education systems operate. The linkage between budgets and programs appears at first glance to be more direct than it is on further acquaintance, and recent changes have been in this direction of providing resources and demanding accountability, rather than in bureaucratically specifying the use of resources in each system. Given the diminished bureaucracy and the emphasis on professionalism, the indirect consequences in a change such as the adoption of an exit exam take time to develop. They do develop, however, because public education is among the most systematic sectors in America, with changes in one major element – such as high school standards for graduation – inevitably affecting every other major element.

A&M decided against including effects where the exit exam is not identified as the primary cause of a cost or where its share of causation is unclear. Precisely because causes tend to be bundled together, costs might be equally attributable to any one of them – exit exams, increased testing in lower grades, teaching to standards, district accountability, etc. In this situation, we are reluctant to attribute costs to the exit exam. For joint costs of a clearly delineated program – as with the assignment of the exit exam’s share of an assessment budget, we will attribute costs in part on the basis of costs where shares can be identified, as with the costs of publications on exit exams and other topics.

What is or what ought to be? The costs of the current exam arrangements and results are distinct from what the costs would be were the state to achieve its goals for the exit examination. The case for measuring current costs is that measuring hypothetical costs is difficult. The case for measuring the costs of future success depends on the purpose of the exit exams. Legislatures adopt exit exams to improve education, not simply to measure what already exists. In this sense, the cost of exit exams ought to be the cost of their success: if scores did not improve, why have the exams? At a minimum, the cost of current efforts and results should be distinguished from those needed to be more successful. Many states have some official standard of adequate performance – for individuals, for schools, for districts, and for the state as a whole – below which improvement is demanded and above which future improvement has no impact. These states thus provide a standard for performance under which costs can be assessed. An alternative would be to use a single national standard, such as NCLB’s 100% passage. Because state exams vary and were not designed for 100% initial pass rates, the national standard may offer more the appearance than the reality of a single standard.

From the start, A&M and CEP have worked to develop a method that could estimate both the current costs of exams and the costs of an arrangement in the future, where students would have a substantial chance of passing. This seems to us to be necessary for decision-makers and educators to make informed choices about standards, the required level of resources, and the best allocation of resources.

Exit exam or high school exam? Should the entire costs of the high school exit examination be included, or should the cost of a high school low-stakes test be taken out? Given that all states will be required to have a high school examination of some sort under NCLB, the cost of a high

school exit exam may be considered as something in excess of a minimum exam – either an additional test or additional costs associated with a high stakes test. While that is a clear standard for costs, its disadvantages are twofold. First, because the adoption of exit exams preceded NCLB, state legislatures in exit exam states may opt for low-cost NCLB supplements to the exit exam. As a result, costs may be attributed to the NCLB tests that are properly accounted for by the exit exam. Second, there is no easy way to separate the costs of an imagined test with low stakes for the student from the actual high stakes test.

A&M chose to focus on the costs of the exit aspect of the high school exit examination. Whatever the past events, states now have options of a non-exit exam, an exit exam also meeting the NCLB standard, or separate exams for separate purposes. Focusing on a separable exit component allows us to assess a state’s cost under current choices and to make comparisons across states.

- Choices about information to trust

Historical or current data? By examining historical records, particularly around the time of the adoption of a major change in the use of the exit examination, the cost of the test can be seen in the increase in resources used. This is especially true if the program is easily separable from other programs, has a separate budget, and is implemented through a single state agency. The advantage of historical data is that they are less disputable and can be matched in time to known policymaking events. The disadvantages are that the data cannot be controlled or easily added to when they are insufficient and that other, complicating causes in changes in expenses may be happening simultaneously – time itself a cause. Because many state exit exams have been phased in over time, historical records, especially of school and district-level expenditures, can be more difficult to match to purported exit exam causes. Because high school exit exams have been part of a broader movement toward increased testing, it can be difficult to separate out the exit exam from the other tests, especially when efforts have been made to link them together and tie them to curricular changes. Additionally, historical data provide at best a hint of what would be required to meet official standards of performance in the future.

By examining information about current programs, the needed current resources can be specified, most easily in the case of single agency programs. The advantages of current information can include the control over the data collection and design, information about the cost of currently preferred alternatives, and a diversity of data types and sources, especially interviews. The disadvantages include the absence of a clear baseline against which to measure current costs, producing difficulty in estimating what share of current costs are due to the exit exam, a problem we address later in this report. A&M have chosen to rely primarily on current information about programs, supplemented by historical information, especially about state level costs. The focus on current information allows the study of costs separated in time from the exams and that are not directly accounted for in official budgetary records.

Official documents or also interviews? Should sole reliance be placed on existing documents of costs and resource use, or should additional reliance be placed on collecting new information by way of interviews with informed sources? Existing documents have the advantage of being unobtrusive measures – we do not change or influence estimates in the process of studying them.

Moreover, they usually follow conventions and standards that are understood and important, as in the case of budgets, and have been subject to scrutiny by informed and sometimes suspicious observers. However, existing documents rarely cover all the desired information, and the contexts in which they are developed and used take study before the documents can be understood and used as cost data. Interviews can provide an additional array of desired information, including information about hypothetical situations, intentions and causality. Disadvantages of interviews can include finding the best people and getting their agreement, having interviewees choose what to say to promote their aims, and resolving disagreements among interviewees.³

A&M placed reliance on interviews as well as documents for this study. Documents are ill-suited to the study of local costs of exit exams. In our experience, educators are among the best subjects for interviews. Because of our emphasis on hypothetical standards and possible future costs, interviews are the only source of data on key topics. By bringing interviewees face-to-face around a table and focusing on a common topic, we plan to avoid having to resolve disagreements ourselves.

One type of cost likely to be underestimated in interviews is one-time, nonrecurring costs associated with the development of a program. People tend to “telescope” in time, which has the effect of understating costs that are not current or ongoing. For one-time costs, documents are primary sources. Conversely, resources that are shifted from another purpose in order to cover the needs of exit exams can only be easily studied with interviews. Given resources that increase more slowly than demands, educators have shifted resources toward high priorities. We suspect that high school exit exam performances are among the very highest priorities for state and district officials and expect a corresponding shift in how resources are deployed. There is no use of official documents that could distinguish GQE shifts from resource shifts for other reasons. For instance, if all new software purchases are allocated away from 11th and 12th grade toward middle school, this might be due to a strategy for exit exam success, hence a cost of exit exams, or might be due to a perceived relative surfeit of high school software, and the way to resolve the issue is to ask.

In sum, the characteristics of the exit exam influence the choice of method. The difficulty in separating the historical costs of exit exams from the costs of related reforms enacted in the same period, as well as the state-normed contents and standards of the tests, plus the influence that capstone high stakes testing has on the rest of education, and finally the change-oriented aim of the exams, the undocumented decisions about choices of how to allocate district resources – all these factors lead to a cluster of related choices about what to study and how to study it. A single method should embody these preferences. The next section discusses that method.

³ One possibility would be to survey service providers, as do Laress L. Wise et al., Human Resources Research Organization, California High School Exit Examination(CAHSEE): Year 3 Evaluation Report, June 28, 2002. However, we use interviews to find the best information, rather than to represent a population, so a survey is ill suited to this research task.

The Method Chosen

The choices among what and how to study shape the methodology applied by A&M to study the costs of high school exit examinations. The focus on a single state, the reliance on interviews, and the concentration on current arrangements together lead to a method of going into a state and conducting interviews and group meetings to learn all aspects of exit exam costs, their causes, and their effects. CEP has already done a historical and comparative cross-state study based primarily on existing documents, A&M can rely on this broad background, and CEP's case studies, in designing single state investigations. The single state interviews also aid in investigating the cost of achieving standards in the future, the separation of the "exit" aspects of exam costs, and accounting for indirect effects and those that take time to develop. This section presents the techniques that match the method.

Our method of using interviews to achieve an overall portrait of state costs and investigate hypothetical questions follows techniques developed by A&M and other investigators in school adequacy studies.⁴ While four approaches exist, the professional judgment approach is most commonly used.⁵

The professional judgment approach relies on the views of experienced service providers to specify the kinds of resources, and the quantities of those resources, that would be expected to be available in order to achieve a set of specified objectives (where the objectives are not determined by the service providers). The approach uses multiple panels of "experts" to specify the way education services should be delivered in prototypical schools and school districts. Once the services have been specified, with a focus on needed numbers of different types of personnel, costs are attached and a prototype per pupil cost is determined.

This approach best reflects the experiences of people who are actually responsible for delivering education services and may be combined with research results as the basis of a rational way to specify the magnitude of resources that are expected to produce some level of results. The advantages of the approach are that it reflects the views of actual service providers and it is easy to understand; the disadvantages are that it tends to be based on current practice. Additionally, the approach shares with all approaches the disadvantage that there is little evidence that the provision of money in designated amounts, or even a specified deployment of resources, will produce the indicated outcomes. Based on the adequacy experience, the cost estimates appear to be reliable within approximately 5-10%. That is, panels in the same state with the same task but different members and a different moderator on a different day will often differ from the average by between 5 and 10%.

⁴ For papers discussing adequacy approaches and results, see studies listed at <http://www.aandm.org/papers.htm>. A useful initial study is A&M's "Calculation of the Cost of a Suitable Education in Kansas in 200-2001 Using Two Different Analytic Approaches, Prepared for Legislative Coordinating Council, May 2002. See also the most recent of a series of studies in Wyoming by MAP, "Proposed Revisions to the Cost Based Block Grant," James R. Smith, Management Analysis & Planning, Inc., Submitted to the Wyoming State Legislature, January, 2002

⁵ A discussion of the advantages and disadvantages of alternative approaches, along with a review of their application in one case, may be found in "Enabling 'Adequacy' to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements." Guthrie, J.W., Rothstein, R., Ch. 7, Equity and Adequacy in Education Finance: Issues and Perspectives. Ladd, H. F., Chalk, R., Hansen, J.S., eds. Washington, D.C.: National Academy Press, 1999.

The professional judgment approach forms a base for our method. By bringing together panels of informed educators and posing a single core problem in a hypothetical district the method uses their diverse experience and expertise but brings it to a sharp and unified focus on the problem of interest, high school exit exam costs. Further, panels provide detailed information on what programs and resources are needed to accomplish the goal.

The rubric of professional judgment covers differences in the methodology of the adequacy panels and the exit exam cost panels. Where the adequacy panels tackle a single, future-oriented, broad task of designing an adequate education, the exit cost panels have a narrower focus on exit exams, some of them look at current costs, and have an additional task of considering the cost of hypothetical changes in the exam system.

- Operational Methods

Advisors

Before visiting a state, we establish a relationship with one or more advisors, including someone in the department of education. Additional advisors may include members of legislative committees, university experts, business or foundation proponents of high stakes testing, and officials of the statewide school board, teaching and administrative organizations. Advisors help provide information about potential participants; help solicit cooperation; provide news about developments; suggest places to meet; offer suggestions about proposed procedures; and provide background information about events and personnel. They may be asked to serve on an advisory committee.

Panels

Purpose. Panels of informed personnel provide the primary information about the use of resources in implementing high stakes tests. District panels provide information about school-level and district-level resources. Later, a statewide panel reviews their work, converts resources into costs, and provides information about state-level costs. Additional information from the panels about resources required for an altered, hypothetical examination are used to compare costs in states with different examination configurations.

Task. The task of estimating the resources required for an adequate chance for students in a hypothetical school district to pass the high school exit examination is split into two stages: estimating the resources required for the current exam and standards and estimating the resources required to increase performance to the state-certified adequate level. These two tasks are assigned to two different sets of district panels. Additionally, each district panel is asked to specify the resources required under a different, hypothetical examination arrangement.

Composition. District superintendents have more of the desired information than any other group, and they form the core of the panels. In larger districts, assistant superintendents, business managers, and curriculum supervisors may be more knowledgeable. In addition, panels include

representatives of groups such as teachers, principals of schools at each level, assessment specialists, special education providers, and alternative education experts.

Selection. Advisors of the project are invited to suggest names and contact information for potential panelists. Calling upon a diverse group of advisors helps provide a diversity of suggestions. Potential participants are sent a letter of invitation, including information about their recommendation by an advisor. A follow-up phone call solicits their commitment. An acceptance rate of 50-60% is expected. For teachers, some released time – perhaps for professional development – may be requested from principals and district superintendents.

Location. Panels of 5-7 members are convened in the capitol and at convenient locales around the state. The panels represent different regions of the state and are located to ease access, notably for small districts in rural areas. Panels with a concentration of personnel knowledgeable about at-risk students and alternative schools normally are held in urban areas, and those with a bilingual education focus meet in areas close to the Hispanic population. Facilities may be provided by the state department of education, a school district, supporting associations, or may be a local restaurant or meeting place.

Duration. Panels last for two to three hours. The reporter takes notes and tape records the proceedings for verification. While it is important for all interviewers to attend and jointly debrief an initial panel of each type of task, a single moderator and a recorder normally conduct a panel.

Procedure. After refreshments and introductions, the moderator presents the outline of the project and the task of the panel. Panelists are presented information about a hypothetical, typical school district and asked to estimate the resources required to provide students with 1) the current chance of passing the high school graduation examination or 2) an increased chance of passing at the minimum level officially described as adequate – where no further improvement is required of districts by the state. The panel first decides upon programs, and then estimates the required resources. The moderator may offer an initial list of possible programs and a draft spreadsheet for specifying the resources used for programs. Interviewers record consensus estimates, take notes and use a tape recorder to keep track of the conversation. Panelists respond to a summary of the findings of the session, fill out a questionnaire about the procedures used, and then are thanked and the panel ends.

Focus. We ask the panel to identify required supplies and staff time, professional and support, for each category of program. Later, they distinguish between time shifted from other tasks and new positions and between nonrecurring and recurring costs. When possible, panelists identify resource use with programs. Toward the end of the panel, attendees are asked about how resource use would have differed had the programs been changed in one or more fundamental ways, such as being end-of-course exams or lacking accountability or having a much lower pass rate. A final questionnaire asks about the process in order to make improvements.

Review Panel. In addition to the informed sources panels, a statewide panel meets to review the findings. While the district panels focus on resources, the review panel helps to translate them into costs. This panel reviews the use of resources estimates and decides how to resolve

differences in estimates among panels. Additionally, the review panel estimates the state-level resources required. The statewide review panel includes specialists in finance at the district level, as well as specialists in exit exam budgeting, legislative staff for education and finance, those knowledgeable about state programs and policy, and experts in remediation and assessment from the department of education. Representatives of additional groups, such as parents, may be invited to participate as well.

Interviews

To provide supplementary information from a variety of points of experience, interviews are arranged with those knowledgeable about legal costs, curricular changes, legislative concerns, remediation programs, policymaking, assessment, teachers' concerns, parental concerns, in-state academic advice, and public information. These interviews are commonly one-on-one but may be held in small groups when convenient. The agenda and format vary, but the meetings usually take about an hour and focus narrowly on the contribution of special knowledge. Some of these meetings may be over the phone or through e-mail if necessary.

Documents

The main print sources of information are official documents of the state government and department of education describing budgets, state programs and grants, organization of the state education system and department, characteristics of students and teachers, prices and costs, the exit exam and its administration, standards for and rates of passage overall and for disaggregated results, state standards, and exam remediation. Additionally, state and district websites provide information about personnel, intended changes, district exam results, contact information, job responsibilities, publications, recommendations to districts, federal funding, experimental programs, and legislative priorities. Sources of background information and analyses for state exit examination costs include the Journal of Education Finance and the National Center for Education Statistics, as well as the books and articles cited in this report.

In choosing the core method of professional judgment panels, A&M also chooses the related methods it has evolved, such as a review panel and a nominating group. A method devised for another purpose can be rearranged to study the cost of high school exit examinations with adjustments in the tasks of the panels. The central feature of this method is that for an average school district, panels are asked to specify the resources needed to produce current levels of performance or state-sanctioned levels of performance on the high school exit tests.

Procedures Used in Indiana

A&M's aim was to find a state that would tell us the most about how the technique would perform when applied to a fuller set of states. Indiana best met the following criteria for selection of a state in which to test the methodology. Indiana has completed the early and middle stages of the exit exam process and continues to innovate, moving beyond the testing approach to include remediation and to begin to consider prevention programs. Indiana's Graduation Qualifying Examination typifies exit exams in its major characteristics: student pass rates and extent of ethnic differences; standards-based test format and includes short answer; options in meeting the graduation requirement include something for general education students, only accommodations for disabilities and limited English; local requirements include school and district accountability, with student remediation efforts required of schools and funded by the state. Indiana offers adequate data: the award-winning state website; a comparatively stable exam since 1997; results disaggregated by race/ethnicity; and experience with seniors failing. Further, Indiana offers feasible arrangements for interviewing within the budget: a moderate-sized population with one large, central, capitol city; reliable out state transportation in January; interviewing contacts from recent A&M work and a CEP case study.⁶ Overall, Indiana offered the best chance of completing a study under the available budget that could both estimate costs in the test state and help prepare for studies in additional states.

The procedures used in Indiana closely follow the methods proposed above. This section will provide two types of additional information: specifics of the procedures used in Indiana that illustrate the method, and an evaluation of successes and shortcomings. The narrative offers particulars about the practical operation of the method, while the evaluation forms the basis for recommendations in a concluding section. Our intent is to be open and frank about our methods. The subsequent section discusses the substance of what A&M found out about the costs of the GQE in Indiana.

- Narrative of procedures

We spent four days in Indiana. On Monday, A&M conducted interviews at the Department of Education (DOE) offices and at the headquarters of the Indiana State Teachers Association (ISTA). Three interviews we had arranged fell through, each for a different reason – a traffic accident, a change in staff – which led to additional interviews later on.

On Tuesday, two district panels convened in Indianapolis, one focusing on current costs in the morning and one focusing on costs of meeting standards in the afternoon. Debriefings from these panels led to clearer task descriptions for panelists, the addition of information about the number of teachers in the hypothetical district, and the dropping of the hypothetical questions in future panels.

⁶ Indiana provides unusually full documentary information on district (corporation) finance and assessment performance. At the department's award-winning website, see <http://ideanet.doe.state.in.us/htmls/performance.html>. A companion study to this one might use cross-district, over time statistical models to analyze the documentary evidence, such as the yearly corporation expenditures for remediation and the percentage passing the exit exam. Even this relatively full documentary evidence is, however, a patchwork of available measures, rather than a systematic collection of data germane to the cost of the exit exam.

On Wednesday, the team of Doug Rose of Rosepol and A&M and Keith Gayler of CEP conducted a panel addressing meeting standards in Bloomington, and then held a panel focused on current costs in Lafayette. The team of John Myers and Katherine Christensen of A&M conducted a panel on current costs in South Bend. In the evening, results from all the district panels were readied for presentation to the review panel.

On Thursday, the head of assessment from DOE was interviewed, and then the statewide panel met. It adjusted estimated prices; suggested pooling the results of the three panels on current costs; selected the output of one panel on costs of meeting standards as a much better estimate than the other; made non-numeric suggestions about state-level programs; and did not have time to consider the hypothetical questions. In the afternoon, the delayed interview with the communications specialist was held, as was an interview with the chair of the House Education committee.

The names of our advisors, panelists, hosts, and interviewees are included in the appendices. We are grateful for all the help we received.

CEP's initial contacts were most useful, notably Lowell Rose of the University of Indiana, George Kersey of Phi Delta Kappa, and Marc Steczyk of the DOE. Though A&M drew early on upon its contacts, such as Terry Spradlin in DOE and Dan Clark of ISTA, we did not start from our list of participants from an earlier adequacy study in Indiana. Many of these prior contacts turned up in the course of the study. In general, making an on-site visit several months before the panels to make arrangements and establish relationships would have avoided difficulties.

Lowell Rose kindly put together an advisory panel of six well-respected individuals who were collectively well-informed about the categories of people we were seeking, and the panel came up with a list of 80 names of potential panel participants. We contacted 81, of whom 52 agreed to participate, an acceptance rate of 71%. The acceptance rate was highest for the panels in Indianapolis. In the end, 37 individuals turned out for the five district panels, a turnout rate of 64% among the 52 who agreed to participate, and an overall yield of 46% on the original names. The turnout was held down by conflicting meetings for assessment held during the same week, by unusually cold and snowy weather, and by statewide budgetary emergencies that kept superintendents home, focused on their budgets and boards.

The number of panels, their central tasks, and their locations underwent changes, primarily in response to the availability of panelists, either near the locations or with the appropriate expertise. We planned six panels and ended up with five. In addition to Indianapolis and Bloomington, we originally planned panels in Terre Haute and Fort Wayne but actually conducted panels in Lafayette and South Bend because of the distribution of acceptances.

The original plans had called for some concentration on special topics such as alternative education and special education, at-risk, and limited English students. However, as the plans evolved the main distinction became between the focus on current costs ('what is') and the focus on the cost of achieving stated goals ('what if'). The remaining differences in substantive topics centered on the hypothetical questions unique to each group, which were matched to the

corporations and individuals experience of the participants. When the hypothetical questions were ineffective in the first two panels and were dropped from the remaining meetings, the panels differed simply in location and in ‘what is’ or ‘what if’ topic.

In combination, the composition of the district panels was as follows:

Superintendent	10	27%
Assistant Superintendent	4	11
Business Manager	6	16
Principal	8	22
Assessment, Curriculum	5	13
Special Ed, Counselor, Teacher	4	11
Total	37	100%

The participants were told to expect to spend two to three hours at the panel. The two initial panels stayed for the maximum time, including a break, without completing the hypothetical question. Panelists were not capable of tackling the new task posed by the question. The remaining panels met for around two and one-half hours. Time constraints limited two of the panels, one of which completed its work and one of which did not have time to discuss resources for the more minor programs it suggested.

A copy of the instruction sheets for district and review panels is included in an appendix. The instructions indicated the purpose of the group, described the hypothetical district, set forth the standards for performance on the GQE, and emphasized the task of specifying resources for programs to meet the standards. In a reminder e-mail the Friday preceding the meeting, participants were reminded of the time and place, provided transportation instructions, and given a suggestion to think about programs for producing exit exam results. At the meeting, panelists were provided with a starter list of programs, some of which were never discussed by any panel. Once the programs had been agreed upon, A&M handed out a spreadsheet whose empty cells represented a resource (row) to be used for a program (column) for the exit exam. Again, some resources and most combinations were never used. While panels differed, they tended to focus on a few resources and a few programs. All panels discussed the resources needed for the major programs they had specified. If the panel was not short on time, the moderator reviewed with panelists the choices made and prompted for additional suggestions.

Part of the process of refining our methods was to get feedback from panelists. At the conclusion of the panel, participants were asked to complete and return a questionnaire covering the following questions:

- Do you feel that the instructions and materials presented to you were clear?
- Did you have an understanding of the tasks that you were being asked to complete?
- During this meeting, have you been able to openly express your ideas and concerns?
- Do you feel these have been used in the final conclusions of the group?
- Do you feel that we have addressed all of the resource needs involved in implementing programs that would yield the specified GQE outcomes?

All but the four participants who left early returned the questionnaire.

Everyone indicated that they felt able to express their ideas, and no one said that their ideas were not used in the conclusions, so a positive consensus existed on the participation aspects of the process. There were some concerns expressed about the instructions and the understanding of the tasks, especially at the initial panel. In general, participants gained confidence in their understanding as time progressed in each panel. Finally, a substantial minority expressed skepticism that “all” the resource needs had been addressed. While they were proud of their work, there was often doubt about whether the task was possible at all, much less in a morning or an afternoon.

Two of the review panel participants did not make the meeting due to a snowstorm, and one participant had to leave early. The need for expertise about state-level programs was filled with interviews and follow-up exchanges with DOE personnel. The group met from 8:30 a.m. until noon.

The interview about legal costs was conducted via e-mail before the visit, and an interview about special education was conducted by telephone after the visit.

- Evaluation of the successes and shortcomings of the procedures in the test state

This is a new method and that newness implies some mistakes. Indeed, part of the purpose of the test case in Indiana was to discover the weaknesses so that they could be corrected. Because the basic professional judgment approach has already been used by A&M, however, the approach itself was not expected to produce problems and errors if it fit the task.

Overall, the methodology was successful in yielding informed estimates of the cost of the GQE. Most of the specific methods also succeeded in accomplishing their basic purpose. Therefore, the list of positives will be kept short, limited to aspects that worked notably well or without a glitch. The list of negatives will also be kept short by omitting mistakes of the sort expected even in a mature methodology.

Success

The advisory group was well informed and produced early a quality list of nominees who well represented the populations desired. Unlike the adequacy studies, this project had no in-state sponsor or policy payoff, so the motive for participation was weak. The reputation and established relationships of CEP and A&M helped secure participation of well-respected figures, which in turn persuaded panelists to accept our invitation.

A&M had forecast a 60% acceptance rate and a 75% turnout, for an overall yield of 45%. The acceptance rate was even higher than expected. Because we made no early visits, a high acceptance rate based solely on letters, phone calls, and e-mails is a success. The earlier work by A&M and CEP in Indiana helped. Before the weather turned worse, turnout was high, reflecting in part the success of our reminder, map, parking information, and introduction to the task. Throughout, interest in the topic of exit exams was pronounced.

The separation into two tasks for two types of panels, what is and what if, allowed the panels to have a clearer focus and to complete work on time. The use of a common, average hypothetical district eases the comparison of the two types of costs. The two and one-half to three hour duration was enough time for panels to complete their basic task.

The conduct of the panels – instruction handout, separate program and resource discussion stages, program list handout, keeping to task, chance to contribute – was successful in the senses of yielding expected results and generating few complaints and some compliments.

The review panel completed its most important tasks. Its substantive decisions, from diverse perspectives, about the district panel output agreed on the key points with the assessments the interviewing team had formed while conducting the panels.

The use of multiple panels improved the output. The later panels were more productive in less time than the early panels. Comparing panel outputs in terms of programs, resources, and total costs provided a context that the review panel felt it needed to arrive at an overall judgment. The three estimates of the current recurring local costs were all within 13% of the average, close enough for the review panel to make confident judgments. In statistical sampling theory, if three estimates have this amount of variability, then their average would be expected to err by about 5%.

State-level costs were adequately estimated from interviews, documents, and follow-up questions. DOE officials were accommodating in providing information.

Improvements needed

No African-Americans attended the panel. As 19% of public school students and 5% of teachers in Indiana are minority, the omission is important. Because the African-American share of superintendents and specialists is probably well below the proportion of teachers, some race-conscious measures needed to be taken to ensure participation. An interview with the chair of the legislative Indiana Black Caucus covered aspects of the achievement gap.⁷

The early use of the list of prior participants in A&M's Indiana adequacy study would have eased the creation of the panels, including the review panel. Specifically, it would have provided an alternative source of names when acceptances were low for a particular geographic site. Such contacts are not available in most states.

The timing of the visit caused problems. From mid-November through mid-January, it is difficult to make arrangements or conduct panels. Our visit conflicted with state-sponsored assessment meetings in Indianapolis, which reduced attendance at the Wednesday panels around the state. An early state visit might have prevented this problem. Our January visit also overlapped with a change in the legislature, which caused some problems with the first day's interviewing.

⁷ Legal issues surrounding this gap are discussed in The Use of Tests as Part of High-Stakes Decision-Making for Students: A Resource Guide for Educators and Policy-Makers, U.S. Department of Education, Office for Civil Rights, December 2000. www.ed.gov/offices/OCR.

The hypothetical questions failed. There was not enough time for them, they were too unrelated to the core task, and they required more creativity and energy than panels had available toward the end of the session. The review panel then had nothing to review and no time in any case. Without the hypothetical questions, it becomes more difficult to compare Indiana to other states and to cost out provisions of the exams.

There were too many tasks, at least with the hypothetical questions included. One consequence was time pressure, another was an over-reliance on the moderator to run the group, with a corresponding lesser commitment by panels to owning the process. The lowest estimate of current costs came from a panel that skipped low priority programs because of time pressure. A guaranteed availability for three hours would have helped, providing for a break and enough attention to the question of shifted resources.

While the topic was interesting, the task generated little enthusiasm. Exit exams may be important, but educators and administrators do not love them. Without the hint of a policy change in the offing, panelists took at best a work-like orientation to estimating the use of resources for the GQE as it is. More surprisingly, panels were not much more interested in figuring out the programs and resources needed to achieve state-set goals. In the case of the What If panel among large and urban schools representatives, this reflected some dislike and skepticism about exit exams themselves, as well as the absence of the sort of pragmatic leadership usually provided by superintendents. The reluctance to attempt a grant proposal-like formulation may also reflect the current fiscal situation, where resource cuts rather than increases dominate thinking and concern.

The procedures used for the panels produced some additional problems:

- none of the Wednesday panels had three hours available if needed, and 2.5 hours should have been the minimum length;
- the early panels lacked clarity on the basic task; better analogies were created the next day; in general, moderators improved with practice;
- the suggested list of programs and resources was too long, partially reflecting our need to discover which topics panelists would be most likely to find appropriate;
- the spreadsheet was too imposingly large, making the task seem difficult;
- as expected, the use of a single hypothetical district discouraged exploration of programs appropriate to atypical districts.

Programs targeted at populations – special education, at-risk, and limited English students – were scarce, given that exit exams programs have to succeed with these groups in order to produce high levels of success. In part, this represents an emphasis on mainstreaming these students. While there was some discussion, panels usually avoided programs targeted to these populations. Instead, targeting tended to be toward those who had failed state assessments, with programs being appropriate to any student who fails.

Because panels only addressed the topic of a typical school corporation, they made no estimates of the differences among districts in the costs of exit exams. However, initial differences among districts are apparent in the varying initial failure rates, presumably followed by inequalities in the funds required for remediation. While maturation takes away a share of the problems in

Language Arts, failures in mathematics routinely require intensive remediation. Districts with high rates of math failure will need to spend more on remediation. Districts also vary in the professional development of their staff, and the professional development requirements fall most heavily on districts and schools with the least preparation. Finally, districts having the highest proportions of students who begin schooling with the least preparation should have the highest need for preventive funds. If these problems are severe for a district, then the usual method of shifting resources will not be adequate, as the need outruns the per pupil allocation. When the problems are present together, need could easily outrun available funds. Conversely, school corporations with low rates of failure, few math problems, well prepared staff, and well prepared entering students will, because of the low need for exit examination funding, have a relative surplus of funds to spend on programs of all sorts. Differences among districts may increase as attempts are made to raise scores – by far the highest estimates of the resources needed to reach the commendable level of performance came from the ‘What If’ panel composed of representatives of large and urban school districts with more at-risk students than average.

The expected costs of providing test accommodations to special education students could not be measured from available data or be estimated by the panels. The resources are time and staff, but these are invisibly shifted from other uses and leave no documentary trace.

Federal programs came out only in the course of discussing model or effective or adequately funded programs. They were not presumed germane to the typical district.

The panels did not feature one-time, non-recurring costs. Questions explicitly addressing these resources came late in the session and were cut if time was short. Even when asked, however, panelists assumed recurring resources except for the obvious cases such as technology purchase or the use of outside consultants. For large changes, panelists tended to assume a slow process that required a constant expenditure and would eventually yield persistent benefits. Several noted that preventative costs should eventually diminish the costs of remediation.

In summary, Indiana offered a typical, feasible state. The actual methods used closely tracked the planned methodology. The narrative reveals the usual surprises found in any specific application. However, the methods basically worked as expected and produced the desired types of information. In addition, the test in Indiana suggested improvements to the methods, including an early visit, a better time of year for conducting panels, an eye to adequate representation of African-Americans on the panels, and the replacement of the hypothetical questions. Panelists judged the process a success, though some were skeptical about any group’s ability to adequately specify all the resources needed for performance on the GQE.

The methodological discussion is complete, having moved from the broad choices, to the method in principle, to the evaluation of the applied techniques. Next comes substance, the estimates of the costs of the high school exit examination in Indiana.

Indiana: The Costs of the Graduation Qualifying Examination

This section presents the substantive results of our investigation into the costs of the Graduation Qualifying Examination in Indiana. After an introduction to Indiana's schooling and GQE, we present the premises of our study, followed by the actual cost estimates. The estimates for the costs, local then state, of the current level of performance come first and A&M's estimates of the costs for improved performance on the GQE come at the end. The estimates should be viewed as being within a range of approximately +/- 10%.

In presenting current costs, first come the estimates for the recurring costs of local programs, followed by estimates of one-time costs and of funding by shifting resources from other programs. For state involvement, state funding for local programs – already covered in the local programs – is distinguished from state-level programs administered by DOE. The costs are then summed into total yearly costs, first for current performance, then for improved performance.

- Background Information on Indiana's GQE

As indicated in Table 1, Indiana public schools reflect the characteristics of public education nationwide. Indiana has fewer non-native English speakers than average, spends more than average, and divides responsibility among more districts than average, but is not so different as to be extreme.

Most of the yearly cost of education occurs for personnel. Table 2 reports the estimated average salary and benefits for the personnel most germane to the costs of the GQE. The base calculations are discussed in the A&M report on its adequacy study for Indiana, available at <http://www.aandm.org/INDIANAFINALREPORT.pdf>. The review panel adjusted, confirmed and added to the estimates. Finally, the latest data on average teacher salary available on the DOE website was inserted, with all categories adjusted proportionally.

Indiana conducts statewide assessments in mathematics and language arts for grades 3, 6, 8, and 10 as part of the Indiana Statewide Testing for Educational Progress (ISTEP+). These criterion-referenced, relative to standards and cut-points established by the state. The exams are standards-based to reflect the curriculum guides for Indiana education.

Indiana students must meet the Graduation Qualifying Examination requirement, in addition to earning the course credits needed, to receive a diploma. Students must demonstrate mastery of ninth-grade skills in English and math, and may do so in one of three ways:

Pass the GQE in mathematics and English/language arts.

Complete all components of the Core 40 curriculum, a more rigorous curriculum than the general education track, with a "C" or better in each course.

Appeal their test results with a 95 percent high school attendance rate, attain a "C" average in the 22 credit hours required of all Indiana high school graduates, take the test at least once a year, participate in remediation opportunities provided by the school, gain the recommendation of a teacher in mathematics or English, backed up by documentation of

mastery of the subject area, and have the principal concur with the teacher's recommendation. A similar, though not identical, appeals process is available for students with disabilities.

In the fall of 2002, sixty-eight percent of the Class of 2005 passed the mathematics portion of the GQE, and an identical percent passed the English part, with sixty percent passing both exams. Students who fail have an opportunity to retake the exam every semester of their junior and senior year, for a total of four times. For those not passing, remedial instruction time is offered, performance on specific skills is reported, and the student's work is returned for diagnosis and remediation. The first class required to meet the GQE requirement, the Class of 2000, went from an initial two-subject passing rate of 54% to a final passing rate of 86%.

As reported in Table 3 as well as on pages 80 and 107 in CEP's State High School Exit Exams: A Baseline Report, the most recent disaggregated results, for the 2001 exam, show wide achievement gaps.⁸ Most of the low-income and students with disabilities in Indiana are white, while most of the English language learners are Hispanic.

Based on their students average passing rates on both the English and mathematics exams, schools are classified by the state by their level of performance and by the amount of their recent yearly improvement. The category of "commendable," where no further improvement is demanded, is achieved by an average initial pass rate of 80% on the exams.

Changes in the mathematics examination may make it difficult to improve these results without substantial change in supporting programs. By 2003-4, thirty percent of the GQE math test will be based on Algebra I content, though only 70% of Indiana's students currently take that course before they take the test.⁹

In general, Indiana has a well-developed system of assessment, capped by the GQE. For instance, DOE makes available for downloading off its website PDF guides, at each grade level tested, for parents, for educators, for language arts remediation, and for mathematics remediation.¹⁰ The tests are tightly linked to standard-based instruction as it is practiced by experienced teachers.

- Premises of our study of the current costs of the GQE

To discover the school and corporation costs of the GQE, A&M created a hypothetical district that resembled one the average student attends. The hypothetical district has 5350 students in 11 schools, including two high schools (9-12) with 800 students each and an alternative and

⁸ See also pages 80 and 107 of CEP's State High School Exit Exams: A Baseline Report.

⁹ The Education Roundtable by law reviews and recommends the content and format of Indiana's statewide assessments. The governor and the superintendent of public instruction appoint it jointly. Its "Resolution Determining the Mathematics Content for the New Graduation Qualifying Exam (GQE)," October 8, 2002, reads in part: "Whereas to recognize outstanding student performance on the Graduation Qualifying Exam, the assessment must include questions designed to differentiate students excelling at the highest level; Now, therefore, the Education Roundtable recommends the content of the mathematics section of the new Graduation Qualifying Exam* to be as follows: 70% of the test will cover the cumulative academic standards for mathematics through grade 8 and 30% of the test will cover all of the Algebra I academic standards."

¹⁰ For preparation for the GQE, the most useful guide is the ISTEP+ GQE Item Sampler, DOE, 2001, that covers the multiple choice portions of the test.

vocational school with 150 students. Of the hypothetical total, 16% of students are in special education, 22% of students are eligible for a free lunch, and 3% of students are in limited English proficiency programs.

In this hypothetical district, the GQE tests, test-takers, and results closely followed current statewide figures:

initial (10 th grade) total pass rate on both exams	60%
pass rate for English/Language Arts & Mathematics, singly	68%
students passing both tests within 2.5 years	86%
special education students taking the test (84% of them with some type of accommodation)	11%
ESL/LEP students taking the test (66% of them with some type of accommodation)	3%
initial pass rates for special education students	19%
initial pass rates for free lunch students	45%
initial pass rates for black and Hispanic students	40%
initial pass rates for ESL/LEP students	28%

Panels of superintendents, principals, specialists, and teachers were asked to specify the programs and resources needed for this average district to produce average results. One analogy offered for their task was to advise the superintendent of this hypothetical district in a state similar to Indiana but that had just adopted an exit exam what programs and resources he or she should use to achieve the results. In sum, panelists were provided a state microcosm at the district level, then asked what programs, with which resources, would be required to produce the GQE results given the district characteristics. On a per student basis, these estimates apply statewide as the local portion of costs.

- Local yearly costs of the Graduation Qualifying Examination

All three panels examining the resources currently needed for local GQE programs arrived at similar overall estimates of the costs, so the review panel recommended pooling them to arrive at an average estimate. The type of resources and the location of expenditure for the costs per pupil of the GQE are summarized in Table 4. The yearly costs are substantial, and primarily arise at the school level to pay for personnel. Over one-half (54%) of the personnel costs are for teachers, while another one-third (34%) goes for specialists, notably in assessment and curriculum. The remaining personnel costs are for supervisors such as assistant superintendents, nonprofessional personnel such as aides and clerical assistants, and costs applying to all personnel in the district. Among the nonpersonnel costs, most (62%) goes for instructional materials and supplies, one-ninth (11%) purchases technology such as software, and one-quarter (26%) is spent on transportation.

Table 5 indicates the allocation among types of programs of the same per pupil local cost. The four major types of programs share relatively equally in the cost. Remediation includes classes for students who have failed an ISTEP+ exam, either in the 10th grade or earlier. Preventive programs often make use of specialists, technology, or special instructional materials. Professional development includes professional development days for teachers, with the use of substitutes for school-year days, and the employment of assessment specialists or consultants. Testing includes the actual administration of the exams, as well as data entry, analysis, and administering exam accommodations for students in special education.

Some of these local costs are paid for by state funds. The state provides an estimated \$6 per student for summer schooling that is due to the GQE, and another \$9 per student in remediation funds for the GQE. The federal government and other non-local sources provide small but unmeasured contributions to the GQE costs.

- One-time and shifted resources

Where, then, do the funds come from to pay for the cost of the GQE? The funds for schools and school corporations in Indiana largely come in bloc grants from the state on a per pupil basis, with adjustments for students with special needs. Because there is local flexibility in the use of these funds, superintendents and principals can respond to demands such as the GQE by reallocating resources. Our panelists described how funds available for multiple purposes are shifted from other educational programs when GQE results became a priority. For example, advanced math class sizes are increased in order to free up teaching funds for more basic instruction. In general, as having marginal students pass the math and language test becomes more important, then funds are shifted from instruction for other students and from instruction in other subjects. For programs such as special education and Title I that are already targeted at academically marginal students, resources are shifted toward preparation for and remediation after the GQE. Though an earlier study of remediation found math remediation classes somewhat effective, panelists emphasized earlier instruction in mathematics and, even more, early emphasis on reading to prevent problems with mathematics.¹¹

These shifted resources are relatively invisible to outsiders, as they are not met by budget increases or at least not by budget increases described as due to the GQE. Indeed, even our expert panelists had difficulty attempting any precise estimate of the magnitude of these reallocations, and so we offer none. No single program or category of expense dominated the discussion of where the funds come from or where they go.

The use of shifted resources appears to be more notable for the GQE costs that are indirectly connected to the test. While direct state funding is available for testing itself and for remediation of failures, it has not necessarily been available for mandatory professional development or for early reading programs that head off failures. When superintendents believe these programs are critical to success on the GQE and that the success on GQE will be how students, parents, and

¹¹ “An Investigation of Indiana High School Remediation Programs,” CTB/McGraw-Hill, Monterey, CA, March 2000.

state officials evaluate the district, then resources may be shifted from programs benefiting students unlikely to fail or subjects that are not tested.¹²

In addition to shifted resources, panelists indicated relatively modest one-time, nonrecurring costs for the GQE. These costs averaged \$12 per pupil for software for tutoring and record keeping. Historically, the GQE did not come in with a large infusion of initial costs and funding. Nor has the GQE been publicly linked with visible one-time costs, such as new buildings, hardware, or buses. Nonetheless, the panel's estimate is more likely to be too small than to be too large. For instance, the use of funds to bring in specialists on a one-time basis to help schools prepare in some way for the GQE was not mentioned by panels. However, it may be characteristic in moderate-sized and larger districts leading to higher one-time costs than indicated.

Though hard data are lacking, the shifting of resources appears important for the special education costs of the GQE. Due to broad reform efforts, special education students increasingly have been included in the general education curriculum. With the movement toward standards, special education students have been exposed to standards-based instruction. However, without the GQE, students might be listed as receiving more grade-appropriate material than they actually were exposed to. With the elimination of the "diagnostic option" in Indiana, the pass rates of special education students counted in a district scorecard, and special education students were eligible for remediation of a test failure. Special education teachers now had to learn how to teach to standards, and general education teachers had to learn how to teach special education students. The funds for this training may have come from increases in state and federal streams of funding for special education. The federal funds now account for one-quarter of Indiana special education funding and increased by 25% two years ago and 17% last year, and out of such a sizable fund can come the ongoing costs of professional development associated with the GQE and special education students.

- What the local costs imply about the sources of GQE problems

The pattern of costs ill fits what might be called the "motivational understanding" of the high school exit examination. Exit tests in the motivational understanding are an inexpensive route to improved education. When motivation is perceived to be key, then the student's anticipation of a high stakes test leads to increased application and learning in earlier grades, which yields improved education at no cost to the public except the cost of testing. In addition to this sort of prevention by motivation, students who fail the exam may be motivated by failure to apply themselves in class or in remediation classes in order to pass. While this remediation is more expensive to the public than prevention, it is still relatively inexpensive to provide essentially the same material on an additional occasion.

The amount and pattern of costs outlined by panelists go beyond the motivational understanding. While participants accept the motivational premises for some students, the bulk of the cost of the GQE goes to improve performance of students who have problems that start in the early grades

¹² The shifting of resources is a subject of controversy. For a favorable view, see Allan Odden and Carolyn Busch, Financing Schools for High Performance: Strategies for Improving the Use of Educational Resources (Jossey-Bass Inc., 1998).

and that are not caused by motivational problems. These students are often at-risk or have learning disabilities. Motivation problems are as likely to be a consequence of their educational problems as they are to be the cause of them. The preventive and pre high school programs specified by the panelists are targeted toward students with early learning difficulties. While in a typical district it is possible to shift resources from students without difficulties to those with them in response to the GQE, in a district with a high concentration of students with difficulties, there is no place from which to shift the resources. These costs of meeting the GQE standards are substantial.

A third type of difficulty illustrated by the indicated costs is a training problem. Teachers trained in earlier eras have to learn how to teach to standards and how to translate test reports into a teaching strategy for a student who fails and who is likely to fail. The professional development emphasis reflects this problem. As the exams and standards keep changing, this cost appears recurring for the immediate future. The costs of professional development are substantial.

- State-level costs

Because of reforms, including the No Child Left Behind Act, a high school test is inevitable. In looking at the costs of the Graduation Qualifying Examination, we attempt to subtract out the costs of an ordinary, low stakes exam. That is, only the cost associated with the “graduation qualifying” aspect of the GQE is estimated. This is perhaps the most difficult aspect of the estimate, but it aims at answering the question of what the costs would be with a 10th grade exam but without an exit exam.

"State-level" refers to programs that operate statewide, rather than being carried out at the school or corporation level. The state government is the author of the state-level programs we know about, and the Department of Education conducts them. In addition to these state-level programs, the state government makes funds available to school corporations and schools under varied programs, including basic tuition grants and programs targeted to remediation of GQE failures.

In general, we count as state-level costs of the GQE the resources used by the state to conduct those programs that:

- prepare students for the GQE, such as the pamphlet that informs 9th and 10th grade students and their parents about the test;

- prepare and conduct testing and scoring, such as the cut-point setting conference of January 2003;

- and remedy failures, such as providing the remediation guide. Funding from the federal government dedicated to these state programs is included. State payments to school corporations do not count, even if targeted for the GQE, if they are counted under local programs and resource use. We do not count testing programs for earlier grades, at least in the absence of evidence that these costs are incurred in order to produce success on the GQE. Indirect, partial resource effects, such as changed course offerings in Education departments of Indiana’s universities, are not considered direct state-level costs.

We do not attempt to estimate separately the state share of grants from the federal government for GQE-related programs. Though federal programs under Title I, for instance, target

populations at a higher risk for GQE failure and are often the source of model programs for improving GQE performance, they are not explicitly linked to the GQE, and we have no information about their role in state-level programs. The \$84 million federal grant received in January 2003 for “Reading First” in 65 corporations is not explicitly tied to any exit exam criteria, for instance.

Neither have we estimated the cost of GQE public relations and legal costs. Although the GQE figures prominently in deliberations and pronouncements of top state officials, there is no “public relations” budget line item for agencies and no GQE subheading. For legal costs, while there has been a court case seeking a remedy as a consequence of the GQE and more might be expected, no record of attorney’s hours was kept, no outside counsel was hired, and no payment made, since the state successfully defended the suit. The Attorney General’s office would normally handle cases as part of its legal role for the state. Consequently, the Department of Education’s General Counsel, Kevin McDowell, believes that there is no method for calculating the actual legal costs incurred to date in defense of the GQE, nor is there any way to project potential legal costs.

State-funded local programs

Before considering the state-level costs, we review two prominent state-funded programs that we count as corporation-level programs: summer school and testing remediation.¹³ For summer school, there are 51,643 9th-12th grade students taking “category 1” courses that are required for graduation, at a cost to the state of \$9.4 million. If one-half of these courses were taken because of the GQE, in preparation for the exam or its retake, then \$4.7 million would be the cost. If 10% the 17,647 students taking other sorts of summer school courses, such as noncredit remediation, were due to the exit exam, then another \$.3 million would be state cost, for a total of \$5 million. As the localities pay 15% of the total, local costs would be \$.9 million, for a total summer school cost of \$5.9 million for the GQE.

For state-sponsored remediation, \$20 million is available to corporations to pay for remedying the results of tests for grades 3,6,8, and 10. The tenth grade share is more than the proportional one-quarter. The amount given depends on the distance between the student’s actual score and a passing score, with extreme differences concentrated at the later grades. Additionally, corporations may be more likely to make available remediation programs for later grades and students may be more likely to take advantage of them. We estimate the distribution of the total cost among exams the grade levels as follows: 2/9 for the cost of any exam; 1/10 for extra costs for the 10th grade exam due to the GQE; 1/90 for extra costs for a 10th grade exam due to age rather than the GQE. We thus estimate the 10th grade share of the remediation funds at 1/3 of the total, and estimate the portion of this attributable to the GQE, as opposed to being an exam for older students, at 30%, 10% of the total funds, or \$2 million. The remediation funds require a corporation match of 50% of the total, or another \$2 million. Additionally, there is \$5 million in state funds available for remediation for the GQE alone. We estimate that these funds would not be available if the GQE were not a high stakes test, so the total remediation resources for the

¹³ For a summary of state-funded programs, see the Department of Education’s Digest Of Public School Finance In Indiana, 2001-2003 Biennium.

GQE linked to state programs is estimated at \$9 million. The resources for summer school and for remediation under state grants are allocated to corporation and school efforts.

On a per pupil basis, this state-induced funding of local programs accounts for \$15 of the \$442 presented in Table 4, as part of the 29% of funds spent on remediation. While the estimates of the graduation-qualifying share of expenses might be raised or lowered under different assumptions, no assumptions would lead to an estimate that the state directly induces or pays for a sizable share of the local program expenses.

Estimate of the state-level yearly cost of the GQE

Thirteen million dollars in direct appropriations for ISTEP+ and \$8 million from the secondary market (interest) fund the state level programs in the area of assessment. The costs currently are \$44.50 per student tested, though the cost should drop soon under a recently renegotiated contract. Costs for the GQE are somewhat higher than those for other tests: the construction of open-ended questions is expensive, especially since they must be changed every year; 10th graders write longer answers; 10th grade open-ended items are double-scored; rescoring requests are higher for the GQE because it is an high stakes exam. While the costs are part of a broad contract, the contract would have been different had there been no GQE. We estimate costs of the 10th grade exam at \$59.70 the per student tested (one-third greater than the average) under the current contract, and estimate that 30% of this, or \$17.90 per student tested, is due to the graduation qualifying aspect of the exam, leading to double-scoring and high rescoring, for instance. As 70,973 students took the GQE in the fall of 2002, \$1.3 million is the estimated cost of developing and administering the GQE as part of a state-level program.

The Communication division of the Department of Education produces public service announcements, pamphlets, and a teacher-targeted publication all focused on the GQE at a cost of over \$.3 million, and with the additional of an Assessment-funded staff person (salary and benefits), the cost of these programs reaches \$.4 million. Additionally, the Commission on Higher Education picks up the printing costs for a parent-student guide to remediation on the GQE. We assume that a low-stakes 10th grade examination would have few, if any, of these costs.

Within the Assessment division, the GQE should bear some share of the \$5 million in expenses for developing, administering, and following through on tests. Based on our estimates so far, where the GQE costs about 50% more than other exams, with 90% of the difference due to the graduation qualifying aspect, the GQE's share of expenses would be 10%, or \$.5 million, of the departmental budget. This includes salaries, costs of conferences and workshops to test items and set cut scores, developing an item-sampler for as a test guide, as well as a share of the department's 10-person website team.

Overall, then, an estimated \$2.2 million is the cost of state-level programs for the GQ aspect of the GQE. This is about \$2 per pupil.

- Total yearly costs

The total yearly costs of the GQE are estimated to be, per pupil in the public school system,

Local programs	\$442
State-level programs	\$2
Total	\$444

Included in the local amount is \$15 for state-sponsored local remediation and summer school programs, \$12 paid by designated funds from the state and \$3 paid by localities.

Because the local share of costs is virtually the entire amount, most of the discussion of total costs is simply the discussion of local programs. Additionally, one-time initial costs of \$12 per pupil occur at the local level.

Reporting results on a yearly per pupil basis accurately represents the costs in terms of grade level. The panelists report spreading resources far more evenly spread across grades than the notion of a high school exit exam would suggest. Remediation resources are devoted more to remedying of failures on the 3rd, 6th, and 8th grade examinations collectively, than to remedying solely the failure on the GQE itself. Professional development programs are targeted at teachers at all grade levels. Specialists are brought in to help as a preventative measure in elementary and middle school. Special instruction materials and supplies are targeted to P-8, while software is aimed equally at all grade levels. Only in-school tutoring during the school year is targeted primarily to high school students.

The emphasis on yearly per pupil costs misrepresents the reported use of resources in implying a type of regular, routine expense. While this may be true of professional development in part, panelists in general emphasized critical intervention. Most of the expenses occur for programs that seek to provide some missing ingredient that would allow the normal routines of education to operate effectively. The ingredient might be teaching teachers how to translate standards or test results into teaching, might be software, or might be early reading diagnosis. Given this emphasis on intervention to get education back on track for an individual student, a better way of reporting costs might be in terms of the cost due to the GQE across thirteen years of schooling. That is, when the expense is occurred is less relevant than is the fact that the bill must be paid at some point. Because educators tend to believe the cost is less if the problem can be solved early, resources are often spent in the early grades. However, for students who presently lack that early help or who have motivational problems, the cost may come now. If students attend school for an average of 12.5 years, then the cost of the GQE across the student's public school education is \$5,550, out of a total cost for the student across that schooling of over \$100,000.

One context for understanding the cost of the GQE is the total cost of public education per student in average daily attendance, \$8,128 in Indiana in 2001-2002. The exit exam resources use up 5.6% of the total spent, about one of every eighteen dollars, or \$442 million in a budget of \$8.09 billion. The cost of any single grade level averages 8% of the total, so the cost of the GQE is most of the cost of a year of school. Whether this is too much or too little will depend on the evaluation of the GQE, which is outside the scope of this report. If the GQE is seen as a distracting waste of time, then any amount will be too much. If the GQE is seen as the crucial

pinnacle of a program of standards-based testing that vastly improves an otherwise ineffectual education, then no amount will be too much. In the middle, the amount may be judged by what it is spent upon, and the funds are spent less on testing itself or even high school remediation than they are spent on remedying earlier failures, preventing failure, intervention specialists, and training professionals, all linked into the system of local schooling.

This concludes the discussion of the costs of the current level of performance on Indiana's GQE. Next comes the consideration of the question of what it would cost to improve the student performance to the minimum level specified by the state as being "commendable" for a district.

- The cost of improving performance on the Graduation Qualifying Examination

Panels estimated the cost of raising the initial pass rate on both the mathematics and language arts examinations to 75%, from the present 60%, and raising the share of students who pass the test within 2.5 years from 86% to 94%. No one suggested that this change could be produced quickly, especially for students in the upper grades who have most of their education behind them. Therefore, the programs proposed emphasized long-term strategies. While panelists might have wished for a blank check, they were told to expect that their proposals would be reviewed by skeptics and should be defensible means of achieving the goals.

One-time costs and shifted resources

In a departure from the estimates for current costs, the panels focusing on needs for changed outcomes (the 'What If' panels) did not consider shifted resources to be a realistic way of paying for improved performance on the exit exam. Panelists felt that current resources were already successfully employed for high priority tasks and that shifting resources would not necessarily help performance for the long term.

The 'What If' panels recommended three types of initial, one-time costs: teacher training, technology, and materials. While all have ongoing expenses, the bulk of the cost occurs at the time of initiation. In sum, the cost of these programs amounts to \$26 per pupil or about a \$2.7 million one-time statewide expenditure.

State-level programs

Panelists and interviewees have not been able to arrive at the estimates of the state-level costs of change. One reason for the lack of estimates is that the causal connection between state-level programs and student performance on the GQE is not clear.

The current state-level programs do not seem to be a bottleneck for future progress, so there has been little support for substantially increasing the funds spent on testing, communication, or high school remediation. Rather, the panels emphasized the ability of the state to implement more effective reading programs in the early grades and stressed the capacity of teachers to learn to teach to standards and to translate exam results into targeted teaching. These developments would not primarily be state-level programs, though five state-funded professional development days has been a DOE legislative priority since 2000.

State priorities in part seem to be to avoid change for the worse rather than to achieve change for the better.¹⁴ In the short run, scores may drop rather than increase when Algebra course content is included in the exam in 2004-2005. Even with several years of preparation, the current changes in the teaching of 4th to 6th grade math will not entirely show up in the initial results. While the state can implement programs that have fairly immediate effects on 3rd grade tests, which reflect 1-2 years of teaching, affecting 10th grade results involves affecting what happens nine years before the test. Some of the most effective state-level programs for future GQE results may be the current efforts aimed at improving early grade test results.

In the long term, according to the review panel, the state-level change most influential in raising future GQE scores might be changing the curriculum of state universities so that future teachers are trained on how to teach to standards, how to interpret test results, how to translate them into teaching, and how to motivate students for high-stakes testing. We offer no cost estimates for the GQE share of this change because the causation is partial and indirect.

Estimate of the yearly cost of local programs for GQE improvement

Table 6 presents the estimated yearly cost of local programs to bring the GQE results up to the minimum “commendable” level. The cost per pupil of improvement is higher than the cost of the existing program. Given the realities of motivational problems and the difficulties of raising achievement for students with disabilities and low-income students, the commendable level may be a practical maximum of statewide average performance. Reaching that level would, in the judgment of panels, require an additional cost of 150% in resources devoted to the GQE. By itself, this would be an 8.4% increase in per pupil expenditures or an additional one dollar for every twelve currently spent. It is an open question whether the legislature or the public would be willing to make this expenditure in the future in order to accomplish the improved performance.

As with current costs, school-level personnel constitute the most sizable expense. Personnel at corporation headquarters are a relatively minor expense. The corporation’s larger expenses would be for expenses such as materials, training, consultants and transportation. Aside from personnel, the major costs at the school level would be for instructional supplies.

The programs for improved scores feature preventing student failure and professional development, which together account for one-quarter of the cost (see Table 7). By contrast, remediation and testing move from nearly one-half of the current costs to slightly over one-quarter of the resources for improvement. While the suggested programs were diverse, the overall emphasis was on intervention as early as possible. Although testing and remediation programs such as improved remediation materials or transportation for summer school or better tracking of student test performance over time do attract improvement funds, the focus is less on

¹⁴ The DOE 2003-2005 Budget Issues, <http://ideanet.doe.state.in.us/legwatch/2003/page02.html>, stated top priorities do not include the programs proposed by panelists. However, teaching to standards and professional development to learn how received top support at the August 2002 P-16 Pathways to College Policy Forum, full-day kindergarten is already being created with the General Assembly funding, and Early Intervention Grant research-based programs have been positively evaluated by the Indiana University Education Policy Center.

test-oriented programs than it is on programs that could be justified on broad educational grounds such as improving reading or teaching to standards. The reasons that they count as costs of improvement on the GQE are: 1) they are perceived as needed for improvement on the GQE; 2) they are perceived as unlikely to occur without the spur of the GQE; 3) achieving “commendable” success on the GQE as a result of the programs would lead to the continuation of the funding.

An emphasis on programs that directly improve existing teaching is evidenced in the distribution of resources among the personnel. Costs associated with teachers account for 72% of the proposed funding, while costs associated with specialists are 19%, notably less than the estimated one-third they receive of current expenditures on the GQE. The other personnel costs are for special assessment roles bringing assessment into the existing structure, such as an assistant superintendent of assessment and test-into-instruction coaches for teachers.

Two-thirds of the non-personnel costs for the proposed programs occur for instructional materials and supplies to support diverse programs in remediation, prevention, and professional development. Almost all of the remainder occurs for expenses incidental to the programs, notably for transportation for after school and summer school.

Overall, the panels’ recommendations for improving GQE performance focus on ways to improve broad educational performance. Reading, for instance, is stressed because it is seen as a crucial prerequisite for accomplishment in both mathematics and language arts. Panelists discussed current proposals for broader educational reform, including full-day kindergarten, pre-school, and alternative yearly calendars redistributing summer vacation time. We have not included costs for these reforms except when, as with the Jump Start program, the panelists directly tied them to improved performance on the GQE. The panels’ implicit assumption has been that performance on the GQE traces to skills taught in the standards-based curriculum that almost all children should learn.

The total cost of improvement on the GQE

As with current costs, the perceived costs of change are largely for yearly local programs. The cost of classroom teachers accounts for the largest share (\$521) of the estimated per pupil cost of improving performance to the commendable level for the average district. An additional \$26 per student would be a one-time charge for supporting materials and equipment. In contrast to funds spent simply to teach or funds spent to remediate and test, the proposed expenditures aim at critical interventions in the current education process that would, in the eyes of our well-regarded participants, yield improvements in the GQE performance.

Total yearly per pupil cost of improvement: \$685

Across a half-day of kindergarten and grades 1-12 for a single student, the \$685 yearly cost of GQE improvement translates into \$8,562 per student for a full public school education, on top of the existing \$101,600. In a year, the total cost would be \$682 million. The cost of improvement would be slightly more than the average cost of a year’s instruction.

Averages can be misleading when the costs vary widely. Education costs in general are higher for at-risk, special education, and small-district students. Given the current rates of failure, the costs of improving GQE schools would disproportionately apply to the task of improving the performance of students with difficulties.

At this point, a methodological digression is called for. In calculating improvement standards for exceptional learners, we took the reduction in the overall rate of initial failure on the GQE for all students as a baseline. The minimum commendable level reduces this rate by 37%, from 40% to 25%. We assumed an equivalent reduction in the rate of failure on the math and English exams considered separately. In calculating improved initial pass rates for special education, at-risk, and African-American and Hispanic students, we took the overall rate as a base and then adjusted for: how difficult it would be to lift these students scores; how many resources were dedicated to these students; and whether the students scores could be improved by less expensive collective solutions or would require more expensive individual remedies, remedies that might wait until after the student's initial failure on the GQE. Therefore, we hypothesized a decline of 32% in the initial failure rate of special education and minority students and a decline of 24% in the initial failure rate on the GQE of students eligible for free or reduced-price lunches, as compared with a decline by 37% for the average student. That is, we expect reductions in the initial failure rate for most of the hardest to teach students to be near the levels for the average students.

Even within special education, the cost of improvement varies with disability. The severest disabilities have no cost associated with the GQE presently or in the future. Communications disorders, prevalent among special education students in the early grades, largely disappear by the 10th grade. Only 3% of students with mild mental handicaps who take the GQE pass the test, a rate unlikely to dramatically change. The important group is those with learning disabilities, who comprise the bulk of the special education students who take the GQE. Because the passage rate is low, most of these students are retaking the exam. If the initial pass rate could be raised to 45%, the total number of such students taking the exam could be cut by one-quarter or one-third, due to fewer retakes, with associated savings in preparing for the test. However, because learning disability diagnosis often comes relatively late, compared to other disabilities, these students are hard to target for early intervention. For learning disabilities, then, the cost of improvement might involve new funds and shifting funds from remediation to prevention in upper elementary school.

We have not attempted to estimate the cost of either the current cost of the GQE or the cost of improvement for various categories of students or for schools with different compositions. In an adequacy study of Indiana last year, our estimate was that special education students cost about twice as much to educate as did average students and that hard-to-serve at-risk students cost substantially more than half-again as much as the average. In lieu of targeted estimates, the broad estimates might stand as starting points for a consideration of the concentration of GQE current and improving costs among categories of students. Removing the achievement gap will require investing more in the groups that are behind but that can improve. The cost per school district would vary dramatically across the state. While some corporations have more than 80% of their students passing both English and Mathematics on their first attempt, the highest rate among the 29 schools in Gary, South Bend, and Indianapolis is 51%, with only two schools above 38%. Some districts have four times as large a share of students failing as do other districts.

In summary, Indiana's well-developed assessment system is capped by a 10th grade Graduation Qualifying Examination in English and mathematics. Despite a hefty initial failure rate, marginal students usually pass in time to graduate. A&M created a microcosm of the state for a hypothetical district. For current levels of performance on the GQE, panels of qualified service providers indicated that the costs primarily occurred at the local level, notably for school personnel. The magnitude of the costs, \$444 per pupil, dwarfed budgeted state expenditures for the GQE and went for a variety of testing, remediation, professional development, and prevention programs. By shifting resources from other programs and students, administrators covered the cost of the GQE without additional budgeted state funding targeted to the GQE. The estimated cost of meeting the minimum state prescribed standard of performance, \$685 per pupil per year, would be 150% above the cost of the current level of performance. In the view of the panels, these funds could not be shifted from existing programs but would be devoted to prevention and development interventions at critical junctures that promise educational improvements well beyond simple performance on tests.

The cost estimates indicate that Indiana has moved well beyond the approach of simply testing students to motivate them to improve themselves. The emphasis on remediation for state-sponsored programs represents a further step. Current costs, however, go beyond remediation as local districts and students attempt to improve their initial pass rates by targeting problems before students arrive in high school. The emphasis on prevention increases as panelists considered future improvements, up to the state-defined "commendable" level. However, testing and remediation continue as important components of improving scores.

Methodological Summary and Recommendations

Legislative decision-makers choose among programs and features of reform in light of their principles and of the desired consequences. Service providers, by contrast, concentrate on implementing programs within the context of the students and school they deal with daily. In the middle, educational supervisors and specialists think in terms of resources and priorities among competing demands. The aim of our methods is to draw upon the experience of providers and administrators in order to formulate cost considerations in terms useful to policy-makers. We ask those with respected experience to address “what is” and “what if” questions of the cost of standards and programs. A&M’s chosen method allows for the estimation of the costs of current and improved performance no matter what the state’s approach to exit exams, so could be useful to decision-makers no matter the state of development of their exit exam arrangements.

- Summary of approach.

Interviews. In the professional judgment approach, experts are asked what resources would be needed to supply a given level of educational output or outcome. Experts in school expenses and finance then translate these resources into costs. A&M starts out with a hypothetical, average district that is close to the experience of the participants. We focus on resource use under current levels of performance. Later, estimates of required resources are translated into costs.

Ought and is. The task of a second group of panels is similar except that it focuses on outcomes at a higher, state-certified level. To the degree that the states are not wholly satisfied with the preparation of students for high stakes testing, we ask informed experts for what else would be needed to meet state standards of adequacy. We combine cost and resource approaches, as well as estimates of current and adequate resources. At the state level, we focus on actual costs for current programs. At the state level, it is easier than at the district level to separate out expenses by their purpose and program, and there is not the problem of highly varying district programs and expenses, so we rely more on existing documents.

Direct or indirect. The focus is overall cost of producing a specified outcome or output, including costs that develop over time and those that come from adjusting priorities. This is also the approach taken by Michael Rebell and colleagues to figuring the cost of an adequate preparation for the New York Regents exams, in which they broadly consider all costs of preparing for the exams. Our approach differs because we wish to consider the cost of alternative programs and policies for exit exams. When policies are compared to each other for a single state or across states, marginal pricing becomes appropriate. We take a marginal approach to the cost of an adequate preparation for and conduct of high school exit exams.

Exit or exam. The marginal cost of exit exams can be considered as the entire package of cost differences between the state’s exit exam policies and an alternative set of policies lacking an examination required for graduation. We get at this cost by asking about the resources required for the current testing situation that would not be needed without the graduation requirement. Because the No Child Left Behind Act mandates high school testing, the cost of testing per se is, in our approach, distinct from the cost of high stakes testing. The programs associated with high stakes testing – remediation, retakes, counseling – have the costs we are interested in estimating.

Then we are interested in estimating the additional costs of accomplishing the state policy regarding the level of performance on these high stakes examinations.

Case or compare. To some degree, every state is unique. This uniqueness is evident in the actual content and standards of the graduation exams themselves. No matter what we try, there is an irreducible basic difference among states in their exit exams and hence in our cost estimates. By focusing on an average district for each state rather than the same hypothetical district in every state, we choose a state-centered analysis. Additionally, we focus on the examination system as it exists in each state, rather than a hypothetical package that would be the same in every state. The state-mandated standards for adequacy are again unique to the state, and, in principle, standards could be identical in each state. Along with pricing and other aspects of the school arrangements, these methods mean that it will be difficult to directly compare costs across states. We do use some methods that aid comparison. By focusing on resources that are later translated into costs, we allow the comparison of resources across states with different costing arrangements. Further, the hypothetical changes permit inferences about similar exams.

Present and future or past. Implementing officials face change caused by exit exams as a package, perhaps spread over time. Funding may be provided under the name of a program with either tight or loose control on the actual use of the funds. In any given year, district superintendents must request and organize the resources needed for all programs that year and will allocate available funds according to priorities. The programmatic labels or funding sources for resources are not a reliable guide to the actual delivery of services. Instead, we use a hypothetical, average district and hypothetical questions to elicit information about the allocation of resources toward exit exams.

- Summary of results

Panels produced estimates for the cost of the Graduation Qualifying Examination in Indiana. The three panels provided similar estimates of the cost of current resources needed for school and district programs for the GQE. The overall estimate is \$444 yearly per pupil, which is concentrated on providing personnel at the school level. The programs combine testing, remediation, professional development, and prevention and operate at all grade levels. The contribution of state-level programs and start-up costs are relatively minor. Shifting resources from other programs and students produces most of the resources used for the GQE, which total about one dollar of every eighteen spent on Indiana public education.

The estimated cost of improving education up to Indiana's minimum "commendable" level is \$685 per pupil, all at the local level. The state programs are not the bottleneck for improvement. Panelists recommended programs emphasizing prevention and professional development to make interventions that allow normal education procedures to be more effective with students at risk of failure on the GQE. Panelists rejected the suggestion that a substantial share of the resources needed for improved performance on the GQE could be shifted from other programs. Initial costs of \$26 per pupil provided for one-time investments training, technology, and software. According to these estimates, the state's targeted improvement on exit test results will not come automatically from current programs but will instead require additional funds targeted at education improvements that also improve test scores.

Panels produced no estimates of the cost of different features of exit examinations. While specific programs are tied to the number of teachers or the number of students, no linkage between specific components and cost has been made. Rather, the cost estimate is for a typical district and the entire state of the GQE as it is, at current levels of performance and at improved levels. The estimate should be viewed as being reliable within about +/- 10%.

- Recommended revisions in methods

Studying a set of states in a single year would clear up questions and test assumptions. For instance, results from states at different stages of development would be needed to answer the question of whether the costs of exit exams increase over time as remediation and prevention approaches become pronounced. Comparison of the costs in states with exams at similar stages of development would shed light on the role of student and exam characteristics.

All panels should be provided with a single clear task, a short list of programs and resources, and three hours of time. Across panels, membership should be diverse in age and race as well as in occupation and type of district.

Given practical limitations on the number of panels, consideration should be given to the tradeoff between having multiple panels address the same task, which provides an error check of diminishing value per panel, and having tasks that are more diverse. The number of panels estimating current costs could be reduced to two. Additional possible types of tasks include: having a district with a greater than average share of hard-to-serve students, permitting inferences about how the student composition of districts influence costs; having panels address exit exam programs for special education or at-risk students alone; addressing questions of the cost of changes in the exit exam features.

Questions about programmatic changes to the exit exam cannot be simply added to a panel's task. An entire panel could be devoted to any of the major differences that divide state exit exams, such as the overall pass rate or the availability of accommodations for students with special needs.

The techniques to ease cross-state inferences – hypothetical changes, tying costs to programs, specifying costs by resources used -- have not been notably successful. An alternative would be to create a scenario – an exam, a district, and standards – that was used in identical form in every state for at least one panel.

The best dates on which to visit states may be the end of September, the second week in November, mid-February, and mid-April, depending on the timing of Easter. From the week before Thanksgiving to late January, arranging and conducting panels is difficult, as it is toward the end of the year and during the summer. Panels require an early in-state visit and two months to arrange ahead for participation, so a September panel requires arrangements before the summer vacation.

One possibility within a multi-state study would be to investigate one special topic in each state, providing at least a benchmark for costing in all states. For instance, the topic of shifting resources toward exit exams under changing priorities might be the subject of an entire panel in a single state. Similar emphasis might illuminate the role of federal funds and grants in developing programs for exit exam performance. An in-depth examination of special education resources for an exit exam in one state might help to understand patterns in every state.

For special education, where cost data cannot easily be garnered, A&M might develop cost models that could be verified and corrected by state and local officials. The costs of accommodations and alternative routes to a diploma cannot be calculated with existing data.

After the refinements suggested have been tested in a study, the method would be ready to be applied to populous states that require a large, diverse set of panels exploring a variety of topics or to rural states with small districts and a dispersed population.

Conclusion

In this study, A&M provide to the Center on Education Policy a method to estimate the costs of high school exit examinations. After a series of methodological choices, the core innovative technique has been the adaptation of professional judgment panels to the estimation of exit exam costs. The method has been created to be appropriate to all states with exit exams, and has been tested in Indiana. The test case validates the basic method, which produced cost estimates, and has led to recommendations for specific revisions that refine the professional judgment approach.

Indiana has a well-developed statewide assessment program with leadership at the top from the Department of Education, the Governor, the General Assembly, and the Education Roundtable. Nonetheless, the main estimated costs of the GQE are borne at the school level and the corporation level, because Indiana has moved beyond the testing and even remediation approaches. Even state programs specifically supporting testing and remediation at the local level fund only a small fraction of the local resources employed because of the GQE. Service providers in our panels responded to the demands of the exit exam with a variety of programs for test administration, remediation, professional development, and failure prevention. Local leaders show every sign of being flexible and creative in adapting to the changed priorities represented by the GQE by shifting resources from other programs and purposes.

Improving average GQE results up to the minimum commendable level for a school district requires an estimated additional investment in excess of current spending on the GQE. Further, the funds would be targeted primarily into prevention and professional development programs that seek to intervene in a way that increases the productivity of the existing educational system. That is, raising the GQE scores means improving such educational basics as reading because they are requisite to acquiring advanced skills, including mathematics.

For future work, it would help to study a set of states at the same time to aid comparison. Also, several of the recommended revisions – applying identical scenarios in each state, holding panels on special topics with results that might be useful in all states, creating estimates of the costs of exit exam features one by one across states – presume the ability to plan out at least a multi-state design.

Table 1: Indiana Public School Data*		2001-2
Students		995,407
	Minority	19%
	Free lunch	24%
	LEP	2%
	Graduation rate	91%
Expense/pupil		\$ 8,128
Pupil/teacher		16.7
Corporations (districts)		293

*Data are adapted from the tables listed at
<http://mustang.doe.state.in.us/TRENDS/trends0.cfm>

Table 2: 2003 Indiana Salaries

	Average	Benefit Ratio	Total
School Personnel			
Teachers	\$44,884	30%	\$58,349
Technology/Assessment Specialists	\$53,071	30%	\$68,992
Guidance Counselors	\$48,603	30%	\$63,184
Clerical/Data Entry	\$23,474	30%	\$30,516
Instructional Aides	\$13,169	0%	\$13,169
Substitutes	\$44,884	9.5%	\$49,148
District Personnel			
Assistant Superintendent	\$78,528	30%	\$102,086
Supervisor/Coordinator/Director	\$71,826	30%	\$93,374
Technology/Assessment Supervisor	\$71,826	30%	\$93,374
Curriculum Coordinator	\$71,826	30%	\$93,374

Table 3: GQE Pass Rates	English/Language Arts	Mathematics
All students	68%	65%
White	73%	70%
Hispanic	49%	46%
Black	38%	31%
Free or reduced lunch	45%	42%
Disabilities	19%	21%
Limited English	28%	33%

Table 4: Per Pupil Local GQE Costs	School	Corporation	Total
Personnel	\$ 318	\$ 60	\$ 378
Other	\$ 34	\$ 30	\$ 64
Total	\$ 352	\$ 90	\$ 442

Table 5: Local GQE Programs	Share of Costs
Remediation	29%
Prevention	28%
Professional Development	25%
Testing	18%
Other	1%
Total	100%

Table 6: Per Pupil Local GQE Improvement Costs	School	Corporation	Total
Personnel	\$ 521	\$ 39	\$ 561
Other	\$ 50	\$ 74	\$ 125
Total	\$ 572	\$ 114	\$ 685

Table 7: Local GQE Improvement Program Cost	Share of Costs
Remediation	16%
Prevention	43%
Professional Development	31%
Testing	10%
Other	1%
Total	100%

Appendix 1: District Panel Instructions, Current Costs

Instructions to High-Stakes Testing School District Panel

Augenblick & Myers, Inc.
Denver, CO

January 14 & 15, 2003
Indianapolis and South Bend, IN

1. You are a member of one of two panels of people that are being asked to consider programs for the Graduation Qualifying Examination in a prototype school district. The prototype school district is hypothetical and does not actually exist. It is a convenient way to specify the resources that schools need to have in order to accomplish a specific set of objectives regarding the high school exit examination.

2. Each panel is being asked to indicate the resources needed to provide students an average opportunity to pass the Graduation Qualifying Examination (or an equivalent path to a high school diploma). Please identify the resources that are needed for the examination as it is and that would not be needed if the examination were not a requirement for high school graduation. That is, what resources would be saved if the GQE had always been just another ISTEP test? These resources may or may not be the ones being used in your school.

3. The characteristics of the prototype school district are:

5350 students in 11 schools

6 elementary schools (K-5) with 400 students each

2 middle schools (6-8) with 600 students each

2 high schools (9-12) with 800 students each

1 alternative and vocational school with 150 students

16% of students (about 875) are in special education

22% of students (about 1175) are eligible for a free lunch

3% of students (160) are in programs for limited English proficiency

4. The GQE objectives accomplished by the prototype schools and district under the 2002 standards and procedures are:

initial (10th grade) total pass rate on both exams 60%

pass rate for English/Language Arts & Mathematics, singly 68%

students passing both tests within 2.5 years 86%

special education students taking the test 11%

(84% of them with some type of accommodation)

ESL/LEP students taking the test 3%

(66% of them with some type of accommodation)

initial pass rates for special education students	19%
initial pass rates for free lunch students	45%
initial pass rates for black and Hispanic students	40%
initial pass rates for ESL/LEP students	28%

5. We need you to provide some specific information so that we can calculate the cost of the resources needed to meet the objectives identified above. The fact that we need that information should not constrain you in any way in considering the programs of a prototype school district. Your job is to outline a set of programs designed to serve students with diverse needs in such a way that the objectives specified above are fulfilled. Use your expertise to organize personnel, supplies and materials, and technology in any way that you feel will produce the desired outcomes.

6. For programs you believe are needed but that are best provided at the state level, assume that the state does provide them and make a note of this assumption.

7. There is no single “right” approach. Your task is simply to create a reasonable and effective analysis.

Appendix 2: District Panel Instructions, Improvement Costs

Instructions to High-Stakes Testing School District Panel

Augenblick & Myers, Inc.
Denver, CO

January 14 & 15, 2003
Indianapolis and South Bend, IN

1. You are a member of one of two panels of people that are being asked to consider programs for the Graduation Qualifying Examination in a prototype school district. The prototype school district is hypothetical and does not actually exist. It is a convenient way to specify the resources that schools need to have in order to accomplish a specific set of objectives regarding the high school exit examination.

2. Each panel is being asked to indicate the resources needed to provide students an average opportunity to pass the Graduation Qualifying Examination (or an equivalent path to a high school diploma). Please identify the resources that are needed for the examination as it is and that would not be needed if the examination were not a requirement for high school graduation. That is, what resources would be saved if the GQE had always been just another ISTEP test? These resources may or may not be the ones being used in your school.

3. The characteristics of the prototype school district are:

5350 students in 11 schools

6 elementary schools (K-5) with 400 students each

2 middle schools (6-8) with 600 students each

2 high schools (9-12) with 800 students each

1 alternative and vocational school with 150 students

16% of students (about 875) are in special education

22% of students (about 1175) are eligible for a free lunch

3% of students (160) are in programs for limited English proficiency

4. The GQE objectives accomplished by the prototype schools and district under the 2002 standards and procedures are:

initial (10th grade) total pass rate on both exams 60%

pass rate for English/Language Arts & Mathematics, singly 68%

students passing both tests within 2.5 years 86%

special education students taking the test 11%

(84% of them with some type of accommodation)

ESL/LEP students taking the test 3%

(66% of them with some type of accommodation)

initial pass rates for special education students	19%
initial pass rates for free lunch students	45%
initial pass rates for black and Hispanic students	40%
initial pass rates for ESL/LEP students	28%

5. We need you to provide some specific information so that we can calculate the cost of the resources needed to meet the objectives identified above. The fact that we need that information should not constrain you in any way in considering the programs of a prototype school district. Your job is to outline a set of programs designed to serve students with diverse needs in such a way that the objectives specified above are fulfilled. Use your expertise to organize personnel, supplies and materials, and technology in any way that you feel will produce the desired outcomes.

6. For programs you believe are needed but that are best provided at the state level, assume that the state does provide them and make a note of this assumption.

7. There is no single “right” approach. Your task is simply to create a reasonable and effective analysis.

Appendix 3: Review Panel Instructions

Instructions to High-Stakes Testing Expert Panel

Augenblick & Myers, Inc.
Denver, CO

January 16, 2003
Indianapolis, IN

1. You are a member of a panel of experts, people who have been identified as having extensive knowledge of how schools and the Graduation Qualifying Examination operate and of the resources schools need to fulfill their GQE objectives. Your job is to extend the work of other panels that were asked to specify programs for the Graduation Qualifying Examination in a prototype school district. The prototype school district is hypothetical and does not actually exist. It is a convenient way to indicate the resources that schools should have in order to accomplish a specific set of objectives regarding the high school exit examination.

2. While there is only one expert panel, you will be reviewing the work of two types of district panels: 1) one set of three panels was asked to designate the programs and resources for the GQE as it currently exists as a high stakes examination; 2) a second set of three panels was asked to point out the resources needed to provide students an increased opportunity to pass the GQE. All panels were asked another, later hypothetical question about costs for a changed GQE

3. The characteristics of the prototype school district are:

5350 students in 11 schools

6 elementary schools (K-5) with 400 students each

2 middle schools (6-8) with 600 students each

2 high schools (9-12) with 800 students each

1 alternative and vocational school with 150 students

16% of students (about 875) are in special education

22% of students (about 1175) are eligible for a free lunch

3% of students (160) are in programs for limited English proficiency

4. The GQE objectives accomplished by the prototype schools and district under the 2002 standards and procedures are:

initial (10th grade) total pass rate on both exams 60%

pass rate for English/Language Arts & Mathematics, singly 68%

students passing both tests within 2.5 years 86%

special education students taking the test 11%

(84% of them with some type of accommodation)

ESL/LEP students taking the test 3%

(66% of them with some type of accommodation)

initial pass rates for special education students	19%
initial pass rates for free lunch students	45%
initial pass rates for black and Hispanic students	40%
initial pass rates for ESL/LEP students	28%

The objectives that need to be accomplished by the prototype schools and district under the 2002 GQE standards and procedures are:

<u>increase</u>	<u>from</u>	<u>to</u>
the initial total pass rate on both exams	60%	75%
English/Language Arts & Mathematics, singly	68%	80%
(the minimum average pass rate for a commendable school)		
students who pass both tests within 2.5 years	86%	94%
special education students taking the GQE	11%	14%
(85% of them with some type of accommodation)		
initial pass rates for special education	19%	45%
initial pass rates for free lunch students	45%	58%
initial pass rates for black and Hispanic	40%	59%

all students failing a single exam retake the next year, as do 90% of those failing both exams;

one-half of students who remain in school and who do not pass both the GQE tests nonetheless graduate with their class under alternative procedures and standards;

3% of those taking the test are English as a second language or with limited English proficiency, 65% of whom have an accommodation.

5. We need you to review the work of the panels and find an overall set of resources for the present system and for a more commendable system.
6. Additionally, we would like you to review the estimates the district panels made in response to six hypothetical changes.
7. The next task of the expert panel is to check on the adequacy of our price estimates. We have some preliminary estimates of the cost of many of the resources on a separate list.
8. The final task is to estimate the resources needed for state-level programs under the present system, under the more commendable system, and under the hypothetical changes. We have an initial list of some current state programs.

Appendix 4: Participants

Corporation Panelists

Sandy Beaman

Mike Benway

Jane Boultinghouse

Judith Bush

Mike Bushong

Kevin Caress

J.T. Coopman

Edward Daihl

Tom Doyle

Allan Essig

Ron Etienne

Tom Fletcher

Joyce Fulford

Ron Furniss

Karen Gould

Don Harrison

Russell Hodgkin

William Isaacs

Tim Jackson

Walter Jamrose

Virginia Land

Jennifer McCreadie

Sandra Nixon

Linda Nowling

Donna Osborn

Ray Pavy

Sharon Pitts

John Prince

John Ritzler

Lorene Sandifer

Arlene Schultz

Ryan Snoddy

Tom Thornton

Charlotte Totten

Marvin Ward

Ruth Warren

Joanne Weddle

Review Panelists

Larry Grau

J. Brett Lewis

Susan McDowell

William Riley

Mark Shoup

Advisory committee members

Lowell Rose

Steve Heck

John Kline

Wes Bruce

Roger Thornton

Dennis Costerison

Hosts

Dan Clark, Indiana State Teachers Association

Ed Eiler, Lafayette School Corporation

George Kersey, Phi Delta Kappa

John Ritzler, South Bend School Corporation

Interviewees

Wes Bruce, Assessment, Department of Education (DOE)

Dan Clark, ISTA

George Kersey and staff, PDK

Robert Marra, Exceptional Learners, DOE

Kevin McDowell, General Counsel, DOE

Rep. Gregory Porter, Chair, House Education Committee

Terry Spradlin, Legislative Affairs, DOE

Marc Steczyk, Communications, DOE