

Washington State Higher Education Improving Teacher Quality Program
A Report Prepared for the Washington State Higher Education Coordinating Board

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Executive Summary

The state of Washington has long worked to increase student achievement levels by improving teacher quality. This is based on the knowledge that good teachers positively affect student learning. State agencies such as the Office of Superintendent of Public Instruction, school districts, colleges and universities as well as non-profit and for-profit organizations have launched various initiatives and invested resources into positively influencing the improvement of teaching and learning.

The No Child Left Behind Act of 2001 (NCLB) became law in 2002. The Washington State Office of the Superintendent of Public Instruction (OSPI) administers Title II, Part A, subparts 1 and 2 which provide resources directly to school districts. The Higher Education Coordinating Board (HECB) implements Title II, Part A, Subpart 3 of NCLB through the Washington State Higher Education Improving Teacher Quality Program. The HECB competitive grant program provides resources to partnerships that include a public or private institution of higher education and the division of that institution that prepares teachers and principals, a school of arts and sciences from an institution of higher education, and a high-need school district as determined by federal criteria (with other optional partners). Projects are designed to achieve one or more program goals:

1. Increase participants' subject-matter knowledge (including the use of computer-related technology to enhance student learning) of mathematics and/or content area reading.
2. Increase participants' ability to use challenging Washington State academic content and student achievement standards and Washington State assessment to improve instructional practices and improve student academic achievement in mathematics and/or content area reading.
3. Increase principals' instructional leadership skills that will help them work more effectively with teachers to help students master mathematics and/or content area reading.

'Participant' refers to K-12 teachers, highly qualified paraprofessionals, and/or principals. Highly qualified paraprofessionals have at least two years of classroom experience and either postsecondary education or demonstrated competence in a field or academic subject for which there is a significant shortage of qualified teachers.

Research indicates that a number of factors influence improvements in teacher quality including the delivery of effective professional development activities. Professional development activities shown to impact teacher quality are long term, school-based and school-wide, and include effective professional learning communities, or teams within the school and among teachers at grade level. When these factors are present, improved teacher quality is more likely occur.

The connection between teacher professional development and student achievement has not been thoroughly researched yet. While many people believe that professional

development results in improved student learning, there is scant evidence based on rigorous research to support this belief.

The purpose of this report is to provide the following:

- A review of the past HECB Improving Teaching Quality Grants in Washington State to examine project results and common findings;
- Identification of best practices and effective models in K-12 professional development to improve teacher quality;
- Potential connections to other related Washington State professional development and student achievement initiatives; and
- Recommendations for changes to HECB Washington State Request for Proposal process.

Review of the Projects

The review and analysis of the twenty-five projects in cohorts 1-5 was based on two main data sources: 1) the external evaluation of the first cohort and 2) the final reports submitted by project directors for cohorts 2-5. The external evaluation conducted for projects in the first cohort included 1) data from pre- and post-surveys, 2) focus groups, 3) school-based observations, and 4) analysis of Washington Assessment of Student Learning (WASL) scores of students whose teachers were participants in the projects compared to students whose teachers were not participants. In contrast, the analysis of cohorts 2-5 was limited to a single source for data: the final reports written by project directors. The quality and extent of these final reports varied from project to project; often they consisted of teacher-participant satisfaction surveys and self-reports, with little or no evidence linking improved student achievement to professional development activities.

Some HECB Teacher Quality projects were effective because their design incorporated such characteristics as professional learning communities at the school level, specific intervention curriculum or strategies with time for teacher practice; student achievement assessment built into the new strategies or curriculum, and teacher communication networks to sustain professional development activities.

Data sources from the projects suggested that teachers and/or paraprofessionals benefitted from most of the professional development activities. Generally the project directors reported that projects were successful in reaching project goals and meeting requirements of the federal grant. Project directors were challenged by a range of circumstances, such as availability of teachers, tracking capability at the school level, and the ability to collect data on student achievement. For example, project directors reported that test scores were often released well after the completion of the project and could not be included in the final reports (and in most cases had never been included in evaluating the project results).

Findings from the external evaluation of cohort 1 and project directors' report for cohorts 2-5 include the following:

1. Most of the twenty-five HECB Title II projects reviewed for this report were modestly successful in achieving their goals.
2. Only a few of the projects provided quantitative data that suggested that student achievement scores increased as a result of Title II activities; most projects demonstrated success through participant-teacher self-reports and satisfaction surveys.
3. The strategies used to evaluate the first cohort were most effective. Results were enriched by a mixture of methods, including participant observations, surveys, focus groups, and WASL score analysis, in addition to a review of the final reports. A more effective evaluation of project success would require control and treatment group analysis.
4. Most of the efforts to create professional learning communities involved educators from different schools and were marginally successful due to geographical limitations.
5. The most successful projects impacted student achievement through specific intervention strategies and/or curriculum applied in a school at specific grade levels, while simultaneously developing internal systems to implement and sustain changed strategy, e.g., University of Washington's Project BERS in Cohort 3.
6. Intensive work with teachers and/or paraprofessionals at the school level was a strategy that usually effected change in teacher and paraprofessional quality.
7. Federal intent was achieved in most projects with regard to spending grant funds on federally allowable activities and to developing a partnership with a teacher preparation program at a college, a college of arts and sciences, and a high-need school; however, projects frequently failed to demonstrate unequivocal improvements in teacher quality, involvement of principals or superintendents, or improved student achievement.
8. Changes in project leadership usually reduced the chances of achieving project goals.
9. Projects' short-term duration hampered likelihood of producing significant gains in student achievement.

Professional Development Best Practices and Models

Successful best practices in professional development to improve teacher quality are shown to have these common qualities:

- Builds teacher content knowledge,
- Aligns with standards,
- Enhances teachers' knowledge of pedagogy,
- Ensures that activities are ongoing and embedded at the classroom level,
- Builds teacher collaboration and leadership skills, and
- Helps teachers use data (such as examining student work and test scores).

Evaluation of professional development is frequently based on teacher surveys and other self-reporting tools to substantiate teacher behavior change. While we generally agree that quality teaching is likely to positively impact student achievement, most teacher quality programs have not yet developed a baseline for measuring the impact of teacher

change on student learning. Future projects would benefit from creating an assessment design that demonstrates the impact of professional development on student learning.

One model for professional development examined in this report is the ‘center of excellence.’ Such an entity (virtual or otherwise) could potentially provide teachers with a panoply of professional development resources. A virtual and/or real-time center of excellence could be a collaborative effort involving organizations that already provide services to teachers. Such a center might serve as a convener, assessor of training needs, and a provider of services. It could connect teachers with teachers, be a repository for teaching resources and tools, collect assessment data on teacher quality, assist with dissemination of best practices, design and deliver professional development, and broadcast information about other professional development opportunities for teachers, to name a few possibilities.

Connections to other Washington State Initiatives

The HECB Title II Teacher Quality program has the potential for enhancing its effectiveness by connecting synergistically with other programs that share vision, audience, and program goals. Such partners might include Washington Learns, the Transition Math Project, HECB College Readiness Project, the University of Washington’s Washington Center for Teaching and Learning, and the Office of Superintendent of Public Instruction’s professional development activities. Other potential partners might include the Bill & Melinda Gates Foundation and College Spark. These key players (and others) could be part of a statewide effort to improve teacher quality and impact student achievement, utilizing a center of excellence and/or resource network to align initiatives designed to better serve teachers, districts, and students.

Washington State and many organizations involved in professional development have recently increased focus on preparing high school students for college and careers. College readiness has been a key part of Washington Learns, the Transition Math Project, and the HECB College Readiness Project as well as College Spark. The Bill & Melinda Gates Foundation has provided funding for projects that address college readiness. This report recommends consideration of focusing HECB Title II projects on college readiness efforts, to provide the state with opportunity to learn how to effectively move schools and students in this direction.

Future HECB Teacher Quality Program Request for Proposals

A review of six states’ Title II Teacher Quality Program Request for Proposals suggests that Washington could improve the likelihood of improving teacher quality and impacting student achievement results by enhancing or changing features of the RFP. Future HECB Title II projects will likely feature intensive school-based, school-wide efforts to generate teacher behavior change at the classroom-level. Project schools wishing to implement new interventions successfully will benefit from the following:

- Extensive student assessment and project evaluation protocols to determine impact of professional development on student learning;
- Active involvement, support and participation from principals and other school leaders in professional development activities and goals;

- Development of school-based professional learning communities or teams that positively support teacher growth and/or the development of internal systems that support teacher learning (such as team review of student work, shared student assessment data from teacher to teacher and grade level to grade level);
- Development of school teacher-leaders who champion changes;
- Sustained professional development that is integrated into such activities as monthly staff and team meetings and connected to school goals; and
- Professional development outcomes that are aligned with state goals for improving student learning.

At this point in time we have an opportunity to align programs to develop effective and sustainable professional development, by combining efforts and funding to work toward college readiness. The college readiness emphasis will allow the State a means of implementing shared goals across our education system.

Introduction

Preparing educators for the 21st century is one of the most critical activities anywhere for supporting economic development and preparing a highly skilled workforce. Raising student achievement and increasing postsecondary educational opportunities for all students are at the heart of efforts to reform education and ensure that we have an educated citizenry.

Common knowledge suggests that skilled and knowledgeable teachers positively influence student achievement; and therefore teacher professional development can be an effective means for boosting student achievement. Surprisingly, we have little research-based evidence linking effective professional development to increased student achievement. Efforts to determine the effectiveness of professional development have largely been based on teacher-participant surveys and self-report, rather than on assessing change in student achievement. Not all professional development programs can realistically include extensive research components; however, education has a growing need to develop a body of knowledge showing the connection between professional development and student achievement. Professional development programs supported by public funds need to be accountable, i.e., need to show meaningful continuous improvement and demonstrate over time an increasingly positive impact on student achievement.

No Child Left Behind (NCLB) represents an investment in improving teacher quality through professional development, and provides an opportunity to gather empirical evidence about the characteristics of activities that directly influence student achievement. Since 2002 the Washington State Higher Education Coordinating Board has been awarding NCLB Title II funding to higher education and high-need school district partnerships to provide professional development to teachers, principals, and paraprofessionals with the intent of increasing student achievement by improving teacher quality. The purpose of this report is to review past Washington State Teacher Quality Professional Development projects to examine what we have learned about improving teacher quality and about best practices in professional development for teachers. Most importantly, we will identify ways to increase the likelihood of improving teacher quality and raising student achievement levels through future projects.

This examination and analysis of the HECB Teacher Quality Projects provides an overview of project results, including: what worked, what didn't work, what common findings emerged, how well the projects measured their results, how successfully the projects met goals and carried out intended activities; and how well projects responded to the federal intent. This report also identifies what we know about effective K-12 professional development, examines promising models, and identifies other potential partners engaged in professional development initiatives in Washington State. The conclusion offers recommendations for useful features in future HECB Title II requests for proposals.

Review of Title II HECB Projects in Washington State

The 25 projects reviewed in this report spanned the period from 2002 through 2007. The first cohort was the largest to be reviewed, with eight projects. Cohort two had six projects, the third cohort had four, cohort four had two, and the fifth cohort was comprised of five projects. This report will include a review of cohorts 1-5. [HECB Title II Project Overview in Appendix A]. Not reviewed in this report is the sixth cohort (2007-2008) made up of eight projects, some of which are still in progress.

The first Title II projects in Washington State were awarded funds in 2002-2004. An external evaluation team provided the quarterly, mid-term, and final reports for these collective projects. Lynde Paule was the lead researcher, with assistance provided by Organizational Research Services. Paule's final report (*The Impact of the Washington State Title II Improving Teacher Quality Professional Development Program on Changes in Teachers' Practices and in Students' Achievement – Cycle I*, 2005) is the primary source of data for the first cohort. For purposes of this report, individual projects' final reports made to the HECB were also reviewed.

External Evaluation of the First Cohort

The review and analysis of the first cohort (Paule, 2005) included four key questions and extensive quarterly and annual collection of data. The final report was presented in July 2005, at the conclusion of all projects in the first cohort.

Questions addressed in the Paule final report:

1. Did professional development activities improve the quality of K-12 teachers and paraprofessionals? (Did the academic content knowledge and instructional skills of K-12 teachers and paraprofessionals increase in the areas of mathematics and/or reading?)
2. Did professional development provided to K-12 teachers and paraprofessionals result in improvement in students' academic achievement? (Did students' academic achievement improve in the areas of math and/or reading? Did student achievement improve for all students?)
3. What aspects of professional development had the greatest impact on changes in teaching practices and student achievement?
4. Did professional development provided to K-12 teachers and paraprofessionals affect teaching and learning at the school level? (Did the teacher/learning environment in schools change as a result of professional development?)

Methods of analysis in Paule report included four major data sources: pre- and post-training surveys, pre- and post-focus group transcripts, pre- and post-classroom observation protocols, and students' scores on the state assessment tests. Classroom observations were based on the focus of each project in Cohort 1, to determine patterns of implementation and to compare behavior made during initial site visits to that observed during follow-up site visits. Observations were designed to understand how the

participants in the projects implemented their learning and what challenges and successes were encountered. Focus group discussions were guided by the project goals, and were designed 1) to identify patterns and themes that emerged, particularly as teachers implemented their learning in the classroom/ and 2) to determine lessons learned.

Student assessments were analyzed to compare achievement results for participating teachers with those of non-participating teachers from the same school, working with the same grade level. Where possible, principals provided individual student-level data for WASL and Iowa Tests of Basic Skills (ITBS). Analysis includes comparison of participating and non-participating students' scores within two 2-year periods. When local assessments were integrated into projects, this data was also used to analyze student achievement. Most of the projects addressed improvement in teacher quality. Two of the eight projects addressed paraprofessional professional development.

Paule's final report for the first cohorts included these findings:

- Participants' familiarity and prior experience with instructional strategies affected implementation.
- When professional development training is provided outside a classroom context with no classroom observations or implementation assistance, teacher, school, and district factors easily mitigate the potential for sustainable changes in practice.
- Training that takes place over an academic year and that includes monthly meetings provides opportunity for participants to form professional communities of practice where implementation issues, instructional strategies, and information and ideas are shared.
- When several teachers and/or paraprofessionals from the same school participated in training, there was greater potential for discussion about the implementation of instructional strategies among participants during the school day and for sharing information with other staff members.
- Linking EALRs and GLEs to instructional strategies could have enhanced participants' understanding of the relationship between curriculum and instruction.
- Performance-based assessment should play a more prominent role in teachers' decisions about which instructional strategies to use and when to use them.
- Teachers' and paraprofessionals' attitudes and ideas about mathematics teaching and learning influence their teaching methods.
- Professional development training that was consistent with instructional strategies in math curricula and materials used in participants' schools increased the likelihood of the training being transported directly into teachers' and paraprofessionals' classrooms.
- Training in specific instructional strategies that could be seamlessly integrated into math lessons, and that resulted in recognizable improvement in students' math skills and knowledge promised a greater likelihood of sustainable changes in classroom practice.
- Classroom assistance with use of math instructional strategies could have increased the potential for greater and more uniform changes in classroom practices, as well as providing participants with individualized help in implementation.

- Analyzing a variety of performance-based assessments, such as students’ work samples, can inform teachers’ decisions about appropriate instructional strategies.
 - Capable teachers must know many things, but knowledge of the subject matter is central.
 - Being literate in the content areas of math and/or reading is a necessary precursor to helping students meet state standards.
- (Paule, 20-50)

It is worth noting one important challenge in attributing changes in student achievement to specific professional development activities. Paule states that attributing change in student achievement to professional development is “...nearly impossible unless an experimental design is used where teachers and/or paraprofessionals and their students are randomly selected to participate in either an experimental or control group, with one group receiving training and one not..” (73). Teachers decide which strategies or curriculum presented to actually use; this varies from teacher to teacher. It proves difficult to isolate effects of specific components of a professional development activity. This is particularly true when the training is intentionally designed to be non-prescriptive. An additional reality is that schools, teachers, and students are all engaged in other activities that impact learning and influence behavior change. Isolating the impact of professional development on teacher and student behaviors can be extremely challenging. (74)

Cohorts 2-5

Cohort 2-5 (2005-2008) are comprised of seventeen projects, with one project (ESD 112 – Reading Achievement Now) extended through February 2009. For the discussion presented here, all of the individual final project reports submitted to HECB were reviewed. Whereas the review of the first cohort had the benefit of four major sources of data: pre- and post-training surveys, pre- and post-focus group transcripts, pre- and post-classroom observation protocols, and students’ scores on the State assessment tests, the discussion of cohorts 2-5 uses data only from the project directors’ final reports. Information provided by these reports was often limited and sketchy, with no opportunity for any follow-up, such as focus groups or other post-project data collection. This report should be viewed with these limitations in mind – data was collected from a sole source with no opportunity to consider multiple data sources.

The review of cohorts 2-5 was framed by these questions:

1. What were the main results for each project, how effective were the projects, what worked and what didn’t work?
2. How did projects measure their results?
3. How well did projects meet their goals and carry out their planned activities?
4. How well did projects respond to the federal intent?

Cohorts 2-5 included a wide range of projects; all included the required partnerships and were within the scope of the federal grant requirements. State-funded higher education institutions led twelve of the projects. These institutions included Central Washington

University, Eastern Washington University, University of Washington Seattle, University of Washington Tacoma, Yakima Valley Community College, and Washington State University. Private accredited institutions that served as project leads included Heritage University and Saint Martin's University. One Educational Service District (112) led and continues to lead one of the reading projects.

Nine projects specifically focused on reading. Three projects specifically focused on mathematics. An additional four projects addressed both mathematics and reading; one of those also added American Indian history and American Indian language to the project's focus (EWU-Wellpinit Teacher Education Project in Cohort 2). One project addressed both mathematics and science.

Final reports reflected overall accomplishment of project goals. Project goals for the seventeen projects are difficult to categorize beyond the intent of Title II. Each project identified unique goals and activities designed to improve teacher quality.

Projects which exhibited significant results varied from cohort to cohort and among the different categories of activities and goals. Some of the successful projects included:

- The EWU-Wellpinit Teacher Education Project was unique in how it embedded itself into the Salish tribal community and used the Salish language.
- The University of Washington's Building Professional Learning Communities in Mathematics was successful in teaching inquiry-based mathematics and formulating professional learning communities.
- University of Washington's Project BERS built capacity of teachers to screen, diagnose, monitor, and measure student outcomes in reading, to assess intervention, and to build internal systems for collecting student test data and using data effectively across grades and levels.
- Washington State University's Partnerships in Inquiry developed professional learning team models and assisted schools in developing productive PLTs.

Many of the projects had successes in some of the components of their projects. These are reflected on the overview [Appendix A].

Some of the projects focused professional development on specific student populations in high-need school district. Several projects addressed Native American communities, either by preparing paraprofessionals or creating learning opportunities for paraprofessionals who work with native populations. A number of the projects focused on teachers who work with English Language Learner (ELL) students.

In projects that created learning communities, teachers were able to problem solve, share experiences, assess student work, and in other ways reflect on their discipline with colleagues. Learning communities in some projects were further strengthened through communication with other schools and other learning communities. While professional learning communities were sometimes difficult to initiate and sustain, teacher involvement and enthusiasm suggested that this difficulty could be overcome, and that learning communities could have positive school-wide impact.

Cohorts 2-5 experienced a range of challenges. One consistent challenge was difficulty in measuring changes in student achievement, particularly achievement as measured on the WASL. Few projects actually attempted to connect the professional development to student learning. This may have been because project directors considered the projects too short-term to significantly impact teacher change and student achievement.

A second challenge was change in leadership at the project director level. In several cases, leadership change during the grant period made it impossible to fully satisfy the goals of the project(s). In some cases, projects received extended funding, and when this occurred there was greater likelihood of success in achieving project goals. Extensions of projects however did not necessarily result in tracking of student achievement data.

Having teachers become actively engaged in professional learning communities is essential to their success and impact on student achievement. Unfortunately, most of the projects were unable to sustain school-based coaching, peer observation, and the development of professional learning communities within the school(s). While few projects had this as a goal, the research suggests that these are strong elements that lead to teacher quality improvement. Projects that attempted this had some success. In several projects, teachers reported discomfort with being observed (both by their colleagues and by outside coaches).

Few projects included the development of teacher content knowledge. Indeed some projects discovered that goals were hampered by participating teachers' lack of content knowledge, making it difficult for them to apply the instructional strategies they were learning. This was true for the University of Washington's Building Professional Learning Communities in Mathematics; the final report suggested that teachers without content knowledge in mathematics were unable to fully benefit from the professional development activities.

In many of the projects, participating teachers required additional school level support to implement concepts to which they had been introduced. While teachers were enthusiastic about learning new skills and strategies, many could not fully implement them at the classroom level because they lacked support (from other teachers, from principals and from teacher-leaders). This lack of support limited the success of these projects.

Participating teachers consistently said that having administrators involved in projects increased the likelihood of implementation and change. In most of the cohorts 2-5, however, principals were unlikely to be significantly involved in the projects.

Scheduling of professional development activities such as workshops and summer institutes was sometimes problematic because of teachers' schedules. In a number of cases, activities had to be cancelled, rescheduled, or adapted to virtual formats. Professional development that required teachers to travel and to be away from the school was usually challenging for the participating teachers. This was true for both summer institute-like events as well as for professional development days and other related activities during the academic school year.

The review of cohorts 2-5 would have been greatly improved through the addition of focus groups, site visits and observations, and even follow-up reports on student achievement levels pre- and post-intervention. Nevertheless, certain conclusions can be drawn when all projects are viewed for patterns and trends. Lessons learned provide clues to what project designs and key elements are likely to lead to strong results.

Findings

The findings in this report are derived from two key data sources. The projects in the first cohort were evaluated based on various data sources collected by an external evaluator. The findings for cohorts 2-5 are based on one data source – the final project report submitted to HECB by project directors. Given the research question for the first cohort and the different research questions for cohorts 2-5, the findings are divided by cohort groupings. This section of the report will conclude with a summary of all project findings that can help inform future projects and requests for proposals.

The research questions and summary of findings from the eight projects evaluated in the Paule report (the first cohort) were:

1. Did professional development activities improve the quality of K-12 teachers and paraprofessionals? (Did the academic content knowledge and instructional skills of K-12 teachers and paraprofessionals increase in the areas of mathematics and/or reading?)

While Paule states that professional development “unequivocally” improved the quality of teachers and paraprofessionals’ content knowledge and instructional skills, the trainers’ assumptions about participants’ ability to carry out change may have been unfounded. Based on classroom observation, Paule suggests that many teachers lacked conceptual knowledge, particularly in mathematics. Had the trainings incorporated analysis of student work samples, it would have been obvious to the trainers that participants lacked coherent understanding of concepts and skills they needed to help students learn.

Further, Paule suggested training would have had a greater impact if professional development were framed with EALRs and GLEs, thereby allowing participants to learn how to link subject matter content to specific instructional and assessment strategies. This may have ceased to be an issue over time, since subsequent projects were highly likely to align with EALRs and GLEs.

2. Did professional development provided to K-12 teachers and paraprofessionals result in improvement in students’ academic achievement? (Did students’ academic achievement improve in the areas of math and/or reading? Did student achievement improve for all students?)

Paule compared aggregate school scores of 2002-03 and 2003-04 WASL and ITBS/ITED¹ assessments in math and reading. Paule also compared classrooms of

¹ Iowa Test of Educational Development.

participants and non-participants who taught the same grade at the same school. Paule reports that “the math and reading score of students from classrooms of project participants increased from pre training to post training, with the most dramatic changes occurring on the WASL rather than the ITBS” (70). Paule also reported difficulties with incomplete data sets, and difficulty comparing student scores in participating versus non-participating classrooms. The researcher recommends assessments of student performance might be better realized through analysis of student work samples.

3. What aspects of professional development had the greatest impact on changes in teaching practices and student achievement?

- Professional development instruction that included both subject matter content and instructional strategies resulted in changes in participants’ practices.
- A format of week-long institutes followed by monthly meetings throughout the school year was effective in encouraging new practices.
- Participation that included teams from schools was more effective than having solo participants from individual schools; having principal participation strengthened school teams.
- Establishing professional networks as part of the training resulted in new instructional practices.
- Determining impacts of professional development is difficult because teachers engage in all kinds of activities with their students, some driven by district mandates. Paule states, “Isolating impact is thus messy and challenging” (74).

3. Did professional development provided to K-12 teachers and paraprofessionals affect teaching and learning at the school level? (Did the teacher/learning environment in schools change as a result of professional development?)

Paule conducted focus group discussions and classroom observations to answer these questions. Results indicated the following:

1. Professional development was targeted to individual teachers and/or paraprofessionals, not the entire school.
2. Professional development provided training in discrete topics, resulting in participants’ choosing to use only selected elements of the training. Training in a single curriculum or instructional strategy may have had a larger school-wide impact.
3. Professional development coupled with visits to the participants’ classrooms would likely impact implementation and would be more likely to affect school level response.
4. Efforts to impact teachers, paraprofessionals and schools would be more effective if the training took place at the school level. Site-based training can support teachers and paraprofessionals.
5. Training provided by the projects would have affected practice at the school organization level if it had been connected to EALRs and GLEs, since the State and the districts were engaged in preparing students for state assessments based on EALRs and GLEs.

Findings for cohorts 2-5 echo many of the evaluation findings from Cohort 1, although the framing questions in the evaluation of cohorts 2-5 were slightly different: What were the results of the projects? What were the indicators (how well did projects measure results)? Did projects meet goals and carry out activities? Did the projects respond to federal intent?

To provide an overview of information to inform the design of future requests for proposals, findings are grouped by what worked and what didn't work, followed by general observations. Some designs, strategies, and elements worked particularly well. These included:

- While early Title II projects focused on teachers becoming aware of EALRS and GLE, more recent projects focused on curriculum development and implementation of new instructional strategies using EALRs and GLEs.
- Classroom observations tended to provide effective assessment of teacher behavior change.
- Professional learning teams embedded into the school structure tended to have a positive impact on teacher learning.
- Teacher reflection and teacher identification of personal goals was effective in influencing teacher change.
- Having a portfolio of student work was an effective assessment tool and contributed to measuring the success of the project(s).
- Projects that were designed to explicitly connect to a unique local community (e.g., EWU - Wellpinit Teacher Education Project) were relatively successful
- Training on a specific curriculum was effective in influencing teacher change and student performance (e.g., Heritage University on Sheltered Instruction Operational Protocol for teaching ELL students reading skills)
- UW – Project BERS successfully provided an integrated system in which teachers were taught to assess students, how to develop assessment structures within their schools, and how to share and use data across teaching staff, resulting in some increases in student performance.
- WSU's Partnerships in Inquiry developed professional learning teams (PLT) in reading and math, jointly localizing implementation to reach local goals (model not replicated per se, therefore difficult to assess).
- 'Sheltered Instruction Observation Protocol' (SIOP) used by Heritage University's Creating Professional Development Partnerships Project (Cohort 5) demonstrated an 88% increase in teachers' math knowledge based on pre- and post-tests.
- To positively influence change in teacher behavior, teachers involved in projects require 1) personal and professional long-term commitment to the goals of the project; 2) district and/or principal support to release them from classroom teaching load; 3) interventions that fit with or match the school/region; and 4) teaching teams within their school (to build an infrastructure that supports whole-scale change).

- Projects that include built-in assessment tools such as UW Tacoma Project TIER (Cohort 5) were able to show increases in both student and teacher performance.

Project challenges included the following:

- Principals and superintendents were infrequently involved in projects, reducing the likelihood of whole school adoption of change (reform).
- Evidence of results was often not collected, not communicated, and frequently consisted only of participant surveys/reports quantifying participant satisfaction.
- Evidence of success rarely connected to student WASL score (timing of WASL sometimes was an issue).
- The ability to maintain professional learning communities and teams across schools was adversely affected by geographical distance.
- Some classroom teachers do not want to be observed by their peers.
- Developing trust takes time (more time than allowed by grant periods); school-wide implementation is often affected by whether or not trust has been developed among players.
- Often projects did not realize an increase in participant content knowledge; in many cases this was not the explicit goal.
- Small rural schools had low student populations, making it difficult to compare WASL scores.
- Projects usually did not get full teacher participation at training events; attrition rates were high, a major factor in determining whether desired results were achieved.
- Using WASL scores as a success indicator is often ineffective due to factors outside the control of project partners: limited duration of project, WASL timelines, and complexity involved in using control group and intervention treatment group for empirical study.
- Changes in leadership at the baccalaureate institution level made for difficult implementation, tracking, and reporting.
- Projects incorporating peer observation or coaching were often not effective because there was little or no consistent follow-through throughout.
- Project goals were often not achievable within the time frame of grant activities (e.g., UW-Building Professional Learning Communities in Mathematics in Cohort 2, in which it took participants 2-3 years to learn enough mathematics to be able to understand and use inquiry-based learning with students).
- Participants attending training who represented a variety of schools were less effective in creating change at the school level than were school-based teams.
- Teachers report that having principals involved in projects would have made it easier to implement new ideas at the school level.
- In general, these projects demonstrate that changes in teacher behavior are difficult to 1) observe and 2) assess.
- Multi-district, multi-level projects were more difficult to assess. Schools might be better served by more in-depth work with several teachers or a team of teachers, rather than trying to reach broad audiences (e.g., ESD 112 – RAN – Cohort 4).

- Project results would be better supported with multiple data sources and mixed methods approaches of gathering data.
- Although projects were often not effective in showing an improvement in student WASL scores, they may have increased teacher knowledge and skills as indicated through self-reports, pre- and post-tests, journals, surveys, etc.
- Projects that taught teachers how to create a Professional Learning Team (PLT) or Professional Learning Community (PLC) but did not follow-through at the building level were not able to demonstrate success.
- Observing teachers at training events is different than observing in the classroom – teachers might model behavior at a training event while never intending to use them at their schools.

An analysis of all twenty-five HECB Title II projects can be helpful in recommending directions for future projects, and in suggesting how new requests for proposals might be framed.

1. Projects that connect to EALRs and GLEs, that focus on professional learning communities, and that involve changes in curriculum and instruction are likely to be more successful than those that do not. Schools that engage in intensive work locally are more likely to see changes in teacher behavior. This requires principal support, involvement of teacher teams, and built-in assessment of progress (teacher change and student improvement).
2. Having teachers use their newly acquired knowledge and skills with a cohort of students (a treatment group), and comparing these students with a control group, may result in stronger evidence of student improvement.
3. The Title II Teacher Quality program could encourage the development of promising models (not replication of models, since no project can be truly replicated, given differences in local implementation, characteristics, cultures, and populations).
4. Professional learning communities, teams, or networks prove useful and productive if they include: teacher portfolio development work; shared course portfolios of peer-reviewed curriculum and assessment; assessment of student work; and are supported and valued by the school leadership and collective staff.

While findings for Cohort 1 based on the external evaluation had the advantage of multiple data sources, the overall findings for cohorts 1-5 point to a consensus about what worked, what barriers need to be tackled, and what outcomes might be expected from future projects. As findings suggest, projects will likely result in greater impacts to student achievement if they are brought to the school/district, if interventions are applied at a deeper level through teacher engagement across grade level and aligned school-wide.

To effect real change in teacher behaviors, and improve student achievement, principals and teacher-leaders must be heavily involved in the implementation of new ideas resulting from Title II projects.

Developing professional learning communities, providing peer coaching and mentoring, and generally providing more school-wide support, are critical to the success of future projects.

An analysis of best practices in professional development and effective models for improving student achievement will further substantiate these Title II project findings.

Professional Development Best Practices and Models to Improve Teacher Quality

“Professional development should build teacher content knowledge. It should align with the standards and curricula teachers are expected to teach. It should enhance teachers’ knowledge of teaching practice, both theoretical and practical. It should be ongoing and job-embedded, not brief and external. It should include teacher collaboration, build leadership, and reflect teachers’ input about their needs. It should help teachers use data, perhaps by examining student work” (Noyce, 2006, 36). According to Noyce, however, professional development activities do not go far enough in connecting professional development and changes in teacher behavior to student learning. The goal of professional development for teachers and other players working with students should be to increase student learning. A review professional development models and best practices will substantiate project findings and guide the design and implementation of teacher-training in the future.

Unfortunately, few professional development initiatives specifically establish processes for gathering evidence of student learning. It is difficult to measure student outcomes since the intervention is being taught to the intermediary (the teacher). Other variables make measuring student outcomes challenging – variation between teachers, external factors that affect students’ learning, different district or school priorities, and even changes in leadership or curriculum can have a profound affect on the teacher’s ability to make changes and the student’s ability to learn.

A discussion about best practices in teacher professional development can hardly begin without some discussion of what makes for a quality teacher. This is some of what we know about teacher quality relevant to the HECB Title II project review (Cogshall, 2007; Garet (2001); National Center for Educational Accountability; National Comprehensive Center for Teacher Quality):

- The teacher’s intellectual ability, specifically verbal ability, and a depth of knowledge enable teachers to present curriculum in a variety of ways, communicating in a clear, compelling manner. This influences what students learn.
- It is difficult to find significant correlations between formal teacher education and teacher effectiveness; however, teachers with greater subject matter knowledge tend to ask higher-level questions, involve students in the lessons, and allow more student-directed activities.

- Experience matters. Experienced, effective teachers tend to know and understand their students’ learning needs, learning styles, prerequisite skills, and interests better than less experienced teachers. They are better able to apply a range of teaching strategies and demonstrate more depth and differentiation in learning activities.
- The ability to engage and motivate students effectively is an important element of quality teaching. The focus here is on how students experience school, rather than on what teachers do. Effective teachers are motivational leaders. Their enthusiasm for learning and for the subject matter under study has been shown to be an important factor in student motivation, which is closely linked to student achievement.
- Most of what makes a teacher effective are the “soft” personal attributes that are much harder to measure. Seven personal attributes of effective teachers from Teach for America (TFA) research are:
 - High achieving: A history of success, no matter what the endeavor.
 - Responsibility: Rather than blaming others or circumstances, the individual takes full responsibility for achieving a positive outcome.
 - Critical thinking: The individual reflects about the linkages between cause and effect instead of simply reacting to the effect.
 - Organized: The individual is able to juggle multiple tasks successfully.
 - Motivating: The individual is able to influence and motivate others to action, as evidenced by effective leadership in extracurricular activities such as student run organizations or athletic teams.
 - Respectful: The individual assumes the best about people, especially people in low-income communities.
 - Shares the goal of the organization: The individual wants to work toward TFA’s mission of eliminating educational inequities.

(www.teacherforamerica.org/corps/teaching/becoming_exceptional_teacher.htm)
- Effective teachers who consistently prioritize instruction and student learning as the central purposes of schooling communicate an enthusiasm and dedication to learning that students reflect in their own behaviors and practice.

For a more detailed list of teacher qualities see Appendix B.

A review of research on professional development best practices and successful models (Garet, 2001; Goe & Stickler, 2008; Noyce, 2006) suggests the following indicators, based on the assumption that “teacher quality” is directly connected to student achievement.

- For a truly systemic approach to improve learning, staff development should be content-based, aligned with curriculum and assessment, focused on student learning, and sustained over time, with collaboration among teachers and administrative support. Sufficient time must be allowed for change to occur.
- Professional development must be more than a one- or two-day workshop. It must dig deeper and may take time before the effects are visible.
- Many teachers don’t know how to do what research suggests should be done. They don’t know how to convert information into action. Because they don’t know what quality teaching looks like, they have no vision of themselves performing it. And

without a vision, they can't produce it. Teachers need models and specific how-to ideas. Teachers must be encouraged to drill down beyond the words, i.e., "what does this really mean for practice?"

- Learning subject matter and how to teach it must come together. Staff development should integrate both and provide more depth. A scattershot approach to staff development, i.e., a workshop here, a seminar there, is distracting and much less effective than a long-term, depth-oriented approach.
- Professional development is really about teacher development that develops teachers through their experience and internalization of new concepts and strategies. Teachers and leaders must make a commitment to strengthening practice throughout a teacher's career.
- Attempts to standardize curriculum delivery often work against quality teaching. We should upgrade the skills of teachers rather than try to "teacher proof" the curriculum.
- There is a positive relationship between student achievement and how recently an experienced teacher took part in a professional development opportunity such as a conference, workshop or graduate class. More research on this connection would be helpful to the design of professional development programs.
- Effective teachers invest in their own education. They model to their students that education and learning are valuable by taking classes and participating in professional development, conferences, and in-service training. They discuss their participation in these activities with students in a positive manner.

Professional development that influences teacher behavior cannot be viewed in isolation from the system in which they work. Schools and districts have cultures that may support or ignore teacher development and system change. Systemic issues that are likely to impact professional development initiatives include the following:

- The organization and culture of a school can have a significant impact on the quality of teaching. To improve teacher quality, we must look at the instructional capacity of the entire school.
- Teacher quality depends on the system in which teachers work. For quality teaching to occur, the system should be in alignment.
- Administrators play a major role in determining the quality of teaching that occurs in that building. A strong, effective teacher may have little impact on student learning in a dysfunctional school with little administrative support.
- Some schools have formed Professional Learning Communities, where teachers meet regularly to share ideas about what is working and what is not, and to expand their knowledge and skill sets. This is consistent with research that lists collegiality and collaboration as earmarks of effective teachers.
- Improving the quality of teaching requires that schools develop a philosophy that supports inquiry, deep content and seeing relationships. Change must be system wide, not just about improving individual teachers.
- Teacher evaluations affect quality. Are evaluations designed and conducted in a way that contributes to quality instruction?
- Inconsistent educational policies have a negative effect on quality teaching.
- Teaching a grade level or subject for which a teacher is not certified or has little training may convert a highly qualified and capable teacher into an ineffective one.

- There must be a culture of high expectations for students and teachers. Does the school value teacher learning, collegiality and cooperation?

Most professional development projects tend to show some success with certain elements of teacher improvement. For instance, professional learning communities at the school and grade level may be highly successful in some schools and with some grade levels. Summer institutes and other on-going activities may be successful *if* teams from schools attend and then establish in-school teams to implement plans and strategies that are consistent with the school initiatives and supported by leaders.

However, most professional development programs for K-12 teacher quality improvement represent somewhat isolated efforts that demonstrate pockets of success in achieving some project goals. No single effort can be touted as an unquestioned model of success. This is an area where we continue to work to define excellence.

Center of Excellence Model

The ‘center of excellence’ model is based on a business model of relevant “clustered” industries and resources that provide support for industries in the cluster. Washington State community and technical colleges (CTCs) have developed the center of excellence concept by awarding funding to proposals that are able to demonstrate excellence and continuous quality improvement in providing resources and technical support to specific industry clusters.

In Washington State, centers of excellence are intended to be flagship CTCs that build and sustain Washington’s competitive advantage through statewide leadership. Each center focuses on a targeted industry that drives the state’s economy and is built upon a reputation for fast, flexible, quality education and training programs. A targeted industry is identified as one that is strategic to the economic growth of a region or state.

Representatives from the industry guide collaborative and coordinated statewide education and training efforts to build a competitive workforce in a global economy. Centers in Washington State agree to:

- Maintain an institutional reputation for innovation and responsive education and training delivery to their targeted industry.
- Act as a broker of information and resources related to their targeted industry for industry representatives, community-based organizations, economic development organizations, community and technical colleges, secondary education institutions, and four-year colleges and universities.
- Translate industry research into best practices.
- Provide system coordination, coaching, and mentoring to assist in building seamless educational and work-related systems.
- Build a competitive workforce for driver industries in Washington State.

(www.sbctc.ctc.edu/College/_e-wkforcecentersofexcellence.aspx)

This model could well lend itself to a collaborative initiative to create state resources for professional development for K-12 educators. Such an entity could serve as a flagship organization for educators seeking professional development, technical assistance, research, and informational resources that benefit their professions and their careers.

Outside of Washington, an exemplar state using a center of excellence model applied to professional development to improve teacher quality is South Carolina. The Commission on Higher Education is established a number of centers of excellence, with the goal of establishing statewide resource centers that address high needs of schools and districts. These centers (colleges and universities) engage their colleges of education and departments of arts and sciences, to become more actively involved with low performing schools and districts. Each center is required to demonstrate a commitment to offering sustained, high quality professional development programs in its area of expertise, and in alignment with state policies and initiatives. Host institutions in South Carolina are asked to demonstrate funding commitment and to be engaged in sound research of intervention strategies to improve student achievement.

Professional Development Initiatives in Washington State

A review of various Washington State educational initiatives and organizations involved in impacting teacher improvement and student achievement suggests a potential opportunity to align efforts to achieve common goals. Projects which specifically focus on college readiness are identified. Organizations that may play a part in such an initiative could be some or all of the following (listed in alphabetical order):

College Spark Washington

Mission: to fund programs that help low-income students become college-ready and earn their degrees. This organization makes grants to organizations and institutions throughout Washington State that help low-income students improve their academic achievement, prepare for college life and graduate from college. Grantees include community organizations, colleges, baccalaureates, other educational institutions, and public agencies. Since 2005 College Spark has funded 72 grants in the state and funded participation in *Achieving the Dream* for six Washington community colleges.

HECB College Readiness Project

In 2005 the HECB began defining college readiness in English and science, in collaboration with K-12 and higher education institutions and stakeholders, similar to the effort in mathematics (see Transition Math Project below). Now in Phase 2 of the project, four pilot teams are working to bring college readiness definitions and characteristics into high school classrooms, to positively affect students' college readiness. Future funding will be sought to focus on professional development for Washington State teachers.

Partnership for Learning

The Partnership for Learning is an independent, statewide nonprofit organization that communicates about Washington State's school improvement efforts and the need to

prepare all high school graduates for the demands of today's global society. PFL provides practical information and tools to schools, policy makers, community leaders, parents, teachers and students.

Washington State Office of Superintendent of Public Instruction Initiatives and Professional Development Resources

A host of resources designed to assist in improving teacher quality are offered by OSPI, including opportunities to be nationally certified. OSPI's web site states, "Effective professional development builds cultural competence, examines beliefs, and challenges institutional barriers that act as obstacles to equity for all students." Most importantly, OSPI has been a leader in identifying the EALRs and GLEs, providing critical guidelines for classroom teachers.

State Board for Community and Technical Colleges (SBCTC)

The SBCTC has three primary overarching goals: Strengthen the colleges' system to meet demands for a well educated and skilled workforce; achieve increased educational attainment; and use technology, innovation, and collaboration to meet demands of economy and improve student success. The Transition Math Project (below) is administered by SBCTC.

Transition Math Project

The SBCTC partnered with other state entities and the Bill & Melinda Gates Foundation to define the college readiness standards in mathematics. This collaborative project has engaged a wide range of community-based local projects through an RFP process. Subsequent years of funding may provide for capacity building via professional development activities.

University of Washington's Center for Teaching and Learning

This entity brings educators together for inquiry, innovation, and renewal through four connected projects and programs: Teachers for a New Era addresses teacher education programs; the Partnership with Ackerly Family Foundation supports the UW College of Education with resources to support teachers; Strengthening and Sustaining Teachers (SST) is a vehicle for improved teacher preparation programs, supporting new teachers, and providing ongoing professional development; and Teachers Learning in Networked Communities (TLINC) is a web-based resource for teachers and anyone needing access to teacher resources).

Washington Learns (www.washingtonlearns.wa.gov/)

Washington Learns is the Washington State Governor's initiative to create a vision and identify goals for education, based on a broad cross-section of ideas and expertise from communities and leaders across Washington State. The purpose is to create a roadmap for building a world-class education system that prepares all Washington students to succeed in today's global economy. The recommendations developed by Washington Learns will fundamentally change educational expectations, delivery and results.

- Fully integrate our early learning, K-12 and post-secondary education systems so that the transition from one step to the next is seamless.

- Ensure all children thrive early in life and are prepared to enter school.
- Ensure all students master the skills they need to participate thoughtfully and productively in their work and their communities.
- Close the achievement gap that academically sidelines low-income and minority students. Make higher education and workforce training opportunities relevant and affordable so our workforce can compete within a global economy.

Other programs, agencies and organizations are also deeply involved in improving teacher quality in very specific ways such as technology, academic subject areas, and special populations. However, the broad missions and the college readiness goals of some of the organizations identified above could 1) lead to synergistic efforts to broaden the impact of Title II projects and 2) generate a coordinated effort to improve education for all students.

Other States' Improving Teacher Quality Programs

An examination of what other states are doing to implement Teacher Quality Programs through Title II funding helps inform considerations for changing the Washington State approach to Title II. For example, Washington could follow other states' practice of requiring documentation of changes in both teacher quality and student achievement. The selected reports that follow provide approaches that may be useful to HECB when considering changes to current procedures and award structures.

- California: Focus is on addressing achievement gap in elementary school.
- Elementary schools only;
 - Project must support a leadership model that includes the preparation of some teachers in the intervention to be trained as teacher-leaders, so they can help other teachers improve their teaching;
 - Specifically address ethnic or racial disparities in the targeted school;
 - Take an integrated whole school approach focused on issues in the school that are directly related to the achievement gap;
 - Professional development model must have strong site-based, school-year components and include prepared teacher-leaders; and
 - Ultimately includes providing professional development to all teachers in a school.
- Connecticut: More teacher education for reading and special education instructors.
- Ongoing professional development
 - Detailed student performance information is used to improve instructional practices.
 - State offers low interest mortgages and down payment assistance to teachers who work in high poverty neighborhoods and those employed in shortage-subject areas.
- Kentucky: Instituted incentives for teacher colleges to meet national professional accreditation standards.

- In 1999-2000, KY led the nation in professional development. 83% of the state's teachers reported receiving instruction in content and performance standards in their main teaching assignment during the previous year.

Missouri:

- Hold teacher preparation programs accountable for performance of graduates.
- Assess content knowledge of teachers in low-performing schools and provide content-based professional development for those with deficiencies.

N Carolina: Nation's largest gains in math and reading achievement.

- Teacher quality strategies included:
 - Professional development academies.
 - Mentoring programs.
 - Preparing teachers to respond to students' diverse learning
- Charlotte-Mecklenburg project:
 - Intensive professional development for educators.
 - Targeted low-performing schools
 - Helped teachers get master's degrees.
 - Reduced class sizes.

Texas:

- El Paso Project:
 - Project goal to prepare every student to enter college without remediation.
 - Hired more than 50 full-time teacher coaches.
 - Held intensive summer institutes.
 - Convened monthly meetings for teachers within subject areas.
 - Meanwhile, the university overhauled its teacher preparation program.
 - Elementary teachers now take twice as many math and science courses as their predecessors.
 - These courses are taught by university faculty who helped established teaching program standards.
 - All of the above helped reduce the achievement gap.

Oregon: Similar to Washington State, with a strong recommendation that teachers and principals play leading roles in the development of the proposal design. Proposals must be aligned with the state's goals of closing the achievement gap, preparing for new diploma requirements, success for all students, and middle and high school improvement. Projects must:

- Upgrade content and pedagogical knowledge/skills particularly in literacy, mathematics, science, and foreign language
- Address professional development needs of early childhood, elementary, middle and high school teachers and principals
- Align with standards-based school reform
- Encourage inclusion of principals and vice principals in professional development, given their understanding of content and processes and their ability to provide school leadership grounded in faculty and student learning outcomes.

Projects in Oregon are also asked to demonstrate the effectiveness of professional development activities by using performance measures:

- Peer observation and feedback of participant teaching
- Practice under simulated conditions with feedback
- Informal meetings with other participants to discuss classroom implementation
- Sharing/reviewing student work
- Scoring/analyzing assessments
- Planning, developing and peer reviewing curricula or lesson plans
- Opportunity to present, demonstrate, or lead discussions with peer participants
- Analyzing teaching and learning needs using disaggregated student achievement data.

Wisconsin: In 2008, special consideration was given to proposals that involve pre-service teachers and attempts to change preparation programs so they are able to teach in ways different from how they were taught.

- Pre-service teachers may be participants in the project if it is a school-based teacher training program that provides prospective teachers with an opportunity to work under the guidance of experienced teachers and college faculty.
- Proposals must demonstrate substantial collaboration between arts and sciences and teacher preparation departments.
- Activities must be based on a review of scientifically based research. An explanation of how the activities will lead to improvement in student academic achievement and quality of instruction must be included.
- Measurable objectives for improved academic achievement are required.
- An outside evaluator should conduct the evaluation.

The state approaches described above include ideas that could assist the HECB as it considers revising the Title II request for proposal. Examples might include the involvement of the principal and other school leaders; a whole-school approach; embedded professional learning communities; tracking student achievement data;

establishing project performance measures consistent with state and national guidelines; teacher-and-principal-driven grant proposals to ensure teacher and school/district engagement in implementation of changes. South Carolina's center of excellence model may also be considered in the redesign of the HECB's RFP process

Useful Features of Title II Request for Proposals

This report has been an attempt to respond to review and gather information relevant to the HECB Title II projects – the past as well as the future. The following sections have been included in this report:

- ❖ Review of past HECB Title II Teacher Quality projects
- ❖ Synopsis of what we know about improving teacher quality
- ❖ Identification of best practices and models for effective professional development
- ❖ Description of how a center for excellence model might be useful in Washington State
- ❖ Listing of organizations/entities engaged in activities that relate to or connect with the Teacher Quality project
- ❖ Review of other states' Teacher Quality request for proposal approaches

Based on what we know about improving teacher quality and student achievement, the following recommendations would likely benefit future Title II Teacher Quality projects:

- Consider a HECB Title II focus on college readiness projects, expanding upon the work underway through the TMP and College Readiness projects and supported by Washington Learns, the Bill & Melinda Gates Foundation, College Spark Washington, PFL, and the SBCTC. Engage other connected organizations and agencies, including funders beyond the Washington State Legislature and Title II funding.
- Design assessment processes and collect data to determine if students are learning more because of the intervention.
 - Use a small pilot that has been thoroughly evaluated to move larger initiatives forward.
 - Identify stable assessment procedures that have worked to demonstrate student learning (WASL, pre- and post-testing, portfolios, etc.).
 - Wherever possible, assign treatment and control groups of students to be able to demonstrate effectiveness of the intervention.
 - Maintain records of teacher participation and linked student records.
 - Monitor the changes in teacher knowledge and behavior – asking them may not be good enough. Direct assessment and observations are likely to provide a better picture of what is really happening.
 - Set aside 10% of the cost of the project toward assessment activities.
 - Develop systems within schools that support teacher improvement. This could include establishment of student assessment data collection activities whereby teachers collect and share data, review student progress, and share strategies to

- improve student achievement, including discussions of what works and what doesn't.
- Connect projects directly to colleges of education, to simultaneously improve existing teacher preparation programs as well as teacher quality in the schools.
- Support the development of professional learning communities.
 - Teachers benefit from meeting together as group for monthly meetings to discuss what they are learning, how learning has affected students, what strategies are effective, and how to adapt to make it more effective for students.
 - Participants benefit from analyzing student work samples, to increase their knowledge of content area.
 - In addition to providing professional development on 'classroom strategies', training should also include curriculum development. Projects that include instruction in subject matter content and instructional strategies result in deliberate and purposeful changes in practice.
 - Involvement of several teachers and/or paraprofessionals at the same school is more effective than involving participants from different schools.
 - Development of beyond-school professional networks as part of the professional development might be beneficial toward change in practice.
 - Professional development targeting an entire school (teachers *and* paraprofessionals) increases likelihood of whole-scale change.
 - Professional development is stronger when training is focused on a single curriculum and/or strategy to be used by the entire school staff.
 - Site visits to observe teachers and paraprofessionals serve to support practitioner change.
- Projects are strengthened by explicitly connecting training activities and the EALRs and GLEs.
- Projects are likely to succeed if they are school-driven; professional development activities can be tailored to the unique culture and characteristics of the school.
- Successful projects align with and support intensive school-based, school-wide reform efforts to positively influence teacher quality at the classroom level as demonstrated by student achievement in classroom assessments and WASL scores.
- Multi-year projects allow for deep implementation into the school culture and the benchmarking of both student achievement and change in teacher behavior over an extended period of time.
- Teacher Quality projects could also benefit greatly from specifying an evaluation approach, to determine if these projects successfully focused on improving student achievement and identifying ways they would collect this data as part of their evaluation process. This would require collecting student data over a 2-5 year period and explicitly connecting professional development to student learning.

Washington State's HECB Title II could benefit from the development of a virtual network of professional development resources specifically for current classroom teachers and leaders, using a variation on the Center of Excellence model. This entity could bring together interested partners that are already engaged in professional development activities, to provide an advisory role to guide the entity in developing and

disseminating teacher resources, delivering professional development activities, and informing teachers and educators about other opportunities to improve teaching and learning. Such a model would support the leveraging of funds and provide a one-stop-shop (virtual or real-time) for teachers and educators in Washington State.

Future studies

As the education community works to improve schools and widen opportunities for students in Washington State, efforts will increase to acquire knowledge that directly improves student learning. Information that clearly links teacher quality improvement and student achievement is sparse and tenuous. By designing projects that specifically address improvements in student achievement, and by collecting data that leads to research-driven professional development, we will learn more about what it takes for schools to be successful in preparing students for their futures. Washington State can potentially be a national leader in collecting data that supports the connection between teacher professional development and student achievement – an area of research that is sorely lacking.

Finally, any effort to improve teacher quality and student achievement will require sustained conversations among policymakers, business partners, and organizations whose mission is to improve student achievement. Despite challenges, there is reason to look positively on approaches that help people collaborate to improve teaching. Supporting joint efforts can significantly accelerate improvements in student learning. Washington State's students will ultimately benefit from investments of time and energy spent on activities that improve both teacher quality and student learning.

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Appendix A – HECB Title II Project History Overview
Project 1

Fiscal Agent:	Cohort 1 – Eastern Washington University
Project Name:	Northeast Washington Consortium of Rural Schools Math Project
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Math
Project Description:	<p>Goals: 1) Students will be able to use in-depth mathematical content and processes. 2) Teachers & paraprofessionals will understand and apply mathematical concepts, pedagogical strategies for effectively teaching mathematics, and methods for using collegial support to improve student learning.</p> <p>Objectives: 1.1) Participating districts will demonstrate an improvement on targeted mathematics EALRs. 30% more students will meet standards in these targeted areas than in the baseline year. 1.2) Improved math achievement for all students will be demonstrated by 30% increases in level 2,3 and performance on 4th, 7th and 10th grade assessments. 2.1) Teachers will demonstrate increased competence at effecting mathematical learning of all students through instructional practices focused on in-depth math content and student thinking. 2.2) A sustainable network of teachers, paraprofessionals and principals for the purpose of increasing student achievement in mathematics will exist in Northeastern Washington.</p> <p>Activities: Classroom instruction; Project-oriented collaborations; E-mail and phone conversations as needed; 3 summer workshops; 3 Saturday workshops; up to 24 hours of funded meeting time within districts</p>
Results Description:	<p>Project intended to: 1) Give teachers a clearer perspective on the nature/orientation of learning in the EALRs/GLEs that would motivate them to work to teach in ways that more effectively address that nature/orientation. 2) Show through experience that collaboration is valuable because it is supportive and can develop into an ongoing form of professional development. 3) Project activities will result in observed improvements in or strengthening of teachers' teaching of math and observed and formally measured growth in student learning/achievement (e.g. increased WASL scores).</p> <p>Results: 1) Intention 1) was realized at a beginning but nontrivial level, as evidenced by observations by project university faculty and by teachers discussions. 2) Teachers reported and demonstrated that they had learned that collaboration is valuable.</p>

Extent to which goals were Accomplished/ Internal Evaluation:	Teachers altered instructional and assessment to align with EALRs, GLEs by requiring students to communicate reasoning and understanding and by collaborating with other teachers - Source: Project Final Report
Lessons Learned:	Lessons: 1) Grant activities did not result early enough in the year in instructional changes that would have a pronounced impact on student learning that could be demonstrated on the WASL or other assessments. Participant teachers reported in the closing workshop that they felt they'd be much better prepared to make instructional changes the following year, and did not expect to see significant increases in student learning until then. Increased teacher awareness of student reasoning skills required to meet GLEs

Project 2

Fiscal Agent:	Cohort 1 – Eastern Washington University
Project Name:	Supporting Excellence in Paraprofessional Classroom Practice
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Math & Reading
Project Description:	<p>Goals: 1) Paraprofessionals develop skills, knowledge and understandings of best strategies that work in reading and math and connect them to Washington state standards and EALRs that guide instructional practice. 2) Students taught by paraprofessionals gain initial understandings of how to gain independence in reading and math.</p> <p>Objectives: 1.1) Paraprofessionals and community college students in the target cohort successfully complete 216 credit hours of introductory college level instruction in reading and math and meet state requirements for teacher certification, including knowledge of Washington state standards and EALRs. 1.2) Paraprofessionals and community college students demonstrate through guided and independent practice, evaluated by master teachers and education professionals, their growing expertise in teaching methods for reading and math instruction.</p> <p>Activities: Academic coursework, guided practice, demonstration, reflection and assessment, further practice, independent practice, and final evaluation during Friday and Saturday classes. Activities are designed to move students from academics to classroom apprenticeship, to reflection, back to academics, again to the classroom and so on.</p>

Results Description:	Results: 1.1) 21 participants completed courses in reading education and math content and education with an average GPA greater than 3.2, and a pre-and post-test on EALR knowledge showed that students went from little or no knowledge of EALRs to explicit knowledge of EALRs and how they could be included in lesson plans and teaching. 1.2) Para-professionals worked through guided collaborative, and independent practice in teaching reading and math. Eight self reported changing some of their classroom practices. A post-test of math knowledge showed significant change in participant content knowledge for teaching K-8 math. 2.2) All 21 of the final cohort were observed by peers and by R. Whitman. Observations indicate that in some classes objective 2.2 is being met, however there is no evidence that these practices or abilities necessarily transfer to higher WASL scores.
Extent to which goals were Accomplished/ Internal Evaluation:	Paraprofessionals reported that they saw themselves as "teachers" at the end of the year. Project did not measure student performance.
Lessons Learned:	Strength of the project was bringing coursework to the reservation, providing access to resources that were otherwise unavailable, developing paraprofessionals that can directly respond to native American students' needs.

Project 3

Fiscal Agent:	Cohort 1 - Heritage University
Project Name:	Heritage College Paraeducator Training Academy: Leave No Paraeducator Behind
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Reading
Project Description:	Goals: 1) Develop, field-test and sustain a staff development delivery model (the consensus model) targeting paraeducators. Objectives: 1.1) Develop and deliver a 60-contact-hour/four semester credit course on instructional support for early reading to 30 highly qualified paraeducators. 1.2) Develop and deliver a corresponding series of 2 half-day staff development workshops to 30 highly qualified paraeducators and their supervising teachers (30). 3) Identify and train 3 highly qualified elementary teachers from the partner school districts so serve as adjunct professors at Heritage College to subsequently team-teach the Academy course. 4) Leverage the money provided by the grant.

	Activities: 1) Conduct train-the trainer's workshop, and 2) Conduct two Academy courses, with 15 paraeducators each, 60 contact hours offered @ 10 hours every other weekend for 12 weeks.
Results Description:	Purpose of the project was to provide training for paraeducators in pedagogy, teaming, and literacy training. The final report submitted by Heritage provided some participant data but did not describe results.
Extent to which goals were Accomplished/ Internal Evaluation:	No results reported.
Lessons Learned:	No results reported.

Project 4

Fiscal Agent:	Cohort 1 - Saint Martin's University
Project Name:	Improving Instruction in Reading Comprehension through Learning, Teaching, and Collaboration
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Reading
Project Description:	<p>Goals: 1) To increase the content knowledge about the reading process and skills of teachers, principals, and paraprofessionals. Knowledge will be applied to improve instructional practices, which will in turn lead to improved student reading comprehension.</p> <p>Objectives: 1.1) Increase participant knowledge and understanding of the reading process. 1.2) Increase the variety of effective reading instructional strategies used. 1.3) Increase teachers' integration of reading and writing across the curriculum. 1.4) Engage teachers in a "model" of effective instruction that scaffolds their learning and supports and encourages inquiry-based teaching. 1.5) Increase students' reading proficiency through use of varied reading strategies.</p>

	Activities: 1) Summer training institute for school teams of principal, teachers and paraprofessionals. 2) Ongoing activities included study groups, teachers observing and coaching each other, keeping reflective journals, networking among grade levels and across schools, monthly meetings to share challenges and insights. 10 monthly meetings. 3) Saint Martin's faculty conduct site visits, serve as mentors, demonstrating lessons, coaching and offering feedback.
Results Description:	Results: 1) Participants were exposed to a variety of strategies. Feedback indicated that participants found them useful, were incorporating them in their instruction, and found the resources extremely helpful. 2) Informal feedback indicated that participants increased their knowledge and use of reading strategies in the classroom. 3) Teachers observed changes in students' learning. 4) Teachers' confidence in what they were doing increased.
Extent to which goals were Accomplished/ Internal Evaluation:	Some success with goals; all activities carried out. Observations not conducted, therefore some results inconclusive.
Lessons Learned:	Lessons: 1) Teachers were uncomfortable being observed while still learning. 2) Teachers didn't mind sharing, but were not ready to serve as mentors for each other. 3) Participants were able to share what they were learning. 4) One year is not long enough to make changes. Need time to build community and trust.

Project 5

Fiscal Agent:	Cohort 1 – University of Washington Seattle
Project Name:	Teaching for Understanding: Inquiry-based Mathematics Curriculum Development for Teachers in High-Need LEAs on the Olympic Peninsula
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Math

Project Description:	Develop grade appropriate curriculum unit reflecting one or more of the EALRs in mathematics; participants demonstrated teaching of the curriculum developed; participants submitted curriculum for peer review.
Results Description:	Participants developed grade-appropriate curriculum unit reflecting one or more EALRs; teachers demonstrated teaching skills and submitted curriculum for peer review.
Extent to which goals were Accomplished/ Internal Evaluation:	Limited success due to low participation at in-person workshops and participant attrition
Lessons Learned:	Success in developing curriculum, somewhat successful in assessing student work and developing collaborative teacher learning, less successful increasing content knowledge in mathematics

Project 6

Fiscal Agent:	Cohort 1 Washington State University, Vancouver
Project Name:	Gorge Math Project: Next Step
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Math
Project Description:	Develop and implement a professional development program that addresses unique needs of students, teachers, and sites; provide school-wide assistance to nine school sites, to assist them in adopting and implementing programs and instructional strategies
Results Description:	Participants developed and implemented professional development program based on school improvement plan goals; project provided school-wide assistance to 9 school sites to assist in implementing research-based projects

Extent to which goals were Accomplished/ Internal Evaluation:	Some success with teacher development of instructional strategies, based on pre- and post-assessment of teachers, teacher reflection, building-level data collection
Lessons Learned:	Teachers identified personal teaching goals and reflected on yearly progress. Project requires more effort to demonstrate changes in WASL scores.

Project 7

Fiscal Agent:	Cohort 1 Western Washington University
Project Name:	Helping a High-need District Focus on Improving the Learning/Teaching of Math
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Math
Project Description:	Increase content knowledge of teachers, paraprofessionals and parent volunteers; increase understanding of sense-making and problem solving in mathematics; identify optimal learning environments; learn about the issues in mathematics education
Results Description:	Attempted to deepen teacher, paraprofessional, and parent volunteer content knowledge in mathematics - difficulties with schedule and community engagement limited this project
Extent to which goals were Accomplished/ Internal Evaluation:	Some modest success with deepening content knowledge in math based on portfolio development; lack of success engaging all participants
Lessons Learned:	External circumstances required revision of training schedule; low attendance at events. Tribal community culture required unique approaches and developing a culture of trust.

Project 8

Fiscal Agent:	Cohort 1 - Yakima Valley Community College
Project Name:	Sunnyside 'Pathways for Paraprofessionals'
Contract Period:	4/1/2003-9/30/2004
Subj. Area Focus:	Reading & Math
Project Description:	Goal was to increase instructional strategies and content knowledge of paraprofessionals
Results Description:	Final report not available
Extent to which goals were Accomplished/ Internal Evaluation:	Final report not available
Lessons Learned:	Final report not available

Project 9

Fiscal Agent:	Cohort 2 – Central Washington University
Project Name:	Central Washington University, Chelan and Manson Partnership
Contract Period:	5/3/2004-1/15/2007

Subj. Area Focus:	Math & Science
Project Description:	Project designed to increase student achievement, review and align math and science curriculum, strengthen preparation of teachers, paraprofessionals, and administrators, to change and implement professional development, and to increase parental involvement.
Results Description:	2 summer institutes, 2 fall in-service days, site visits, video conferences, internet and a math/science endorsement program. Used learning communities and grant resources to develop, align and assess math and/or sciences curriculum. Written policies, rules and regulations for ongoing professional development school collaboration were not established. Participant teachers successfully prepared and conducted year long individualized action plans to enhance their math and/or science curriculum, using knowledge gained from their experience with this project. Project in-service presentations and summer institutes were used to share best practices and district progress for involving parents and community members in developing and implementing school improvement plans.
Extent to which goals were Accomplished/ Internal Evaluation:	Twenty-two of 27 participating teachers received teaching endorsements in middle school mathematics and science
Lessons Learned:	Changes in project leadership had an impact on results. No evidence of increased student achievement. Some indication of success implementing parent-child math night at school.

Project 10

Fiscal Agent:	Cohort 2 – Eastern Washington University
Project Name:	The EWU-Wellpinit Teacher Education Project
Contract Period:	5/3/2004-9/30/2006
Subj. Area Focus:	Reading & Math

Project Description:	Paraprofessionals and teachers develop skills, knowledge, and understanding of best strategies in reading and mathematics within context of EALRs and GLEs; students demonstrate improved comprehension and abilities to demonstrate thinking and demonstrate increased independence in reading and mathematics
Results Description:	<p>Paraprofessionals took courses in mathematics, Salish and educational psychology for credit. Also attended summer institute (which teachers attended too). Math pre- and post- tests showed increase in math scores. Conclusion: participants improved understanding of math and how to teach it. Developed inquiry-based curriculum modules. Unit lesson plans developed include a Math and Science Star Stories unit, a language arts unit on Coyote stories, and a Greatest Generation unit on ancestors who served in the military. Participants completed college level instruction and demonstrated knowledge of Washington State Standards, EALRs and GLEs. Participants have demonstrated in their curricula that they have incorporated what they've learned. Observations of participants demonstrate increased reading and math skills. Observations of paraprofessionals demonstrate impact of professional development on classroom practice. Teachers have not given consistent attention to characteristics of effective reading instruction. Students have had the greatest success with Salish, perhaps because the school exerts the least degree of control over this area of the curriculum.</p>
Extent to which goals were Accomplished/ Internal Evaluation:	Fairly effective project, particularly in connecting to local community through Salish language and in engaging students through their culture.
Lessons Learned:	Reading instruction might require more explicit instruction. Connecting to native community requires time to establish trust and to integrate math strands into curriculum.

Project 11

Fiscal Agent:	Cohort 2 -Heritage University
Project Name:	Reading Instruction for Teachers of ELL Students in Dual Language and Content ESL Programs

Contract Period:	5/3/2004-9/30/2006
Subj. Area Focus:	Reading
Project Description:	Goal was to improve teacher and paraprofessionals skills in supporting ELL students; to develop customized courses; to train instructional leaders to coach and model protocols; to train 40 teachers in protocols; to develop a model that leads to improved performance of ELL on state reading tests.
Results Description:	Enhanced knowledge and skills of teachers to support efforts to meet the needs of ELL students; develop customized courses integrating Sheltered Instruction Operational Protocol (SIOP) as instructional framework; and trained teachers to become coaches.
Extent to which goals were Accomplished/ Internal Evaluation:	Project objectives achieved, although evidence of student achievement is lacking.
Lessons Learned:	The required coaching and peer observation were difficult to maintain throughout school year; lack of focus on content instruction.

Project 12

Fiscal Agent:	Cohort 2 – University of Washington Seattle
Project Name:	Building Professional Learning Communities in Mathematics: Enlarging Content with Natural Resource Application
Contract Period:	5/3/2004-12/31/2006
Subj. Area Focus:	Math
Project Description:	The goal of the project was to teach teachers inquiry-based learning, so they could to assist students' learning of mathematics by focusing on mathematical solutions to problems drawn from real-life situations in nature

Results Description:	<p>Teachers were enthusiastic about using real life situations for teaching math.</p> <p>Observed that it took even the most receptive teachers two to three years to successfully learn how to assist students to frame a problem, develop and use appropriate math skills and more.</p> <p>Project formed professional learning communities of participants and attempted to nurture cooperation and communication throughout the 2004-05 and 2005-06 academic years.</p> <p>Instructional team members visited several classrooms and provided onsite support for teachers.</p>
Extent to which goals were Accomplished/ Internal Evaluation:	<p>Informal survey of teachers at the end of the two summer institutes.</p> <p>Periodic assessments at end of each day at summer institutes.</p> <p>Positive letters from participants; some teachers had difficulty grasping math concepts used in inquiry-based learning models.</p> <p>Teacher to teacher communication within and between learning communities facilitated change by providing role models and leadership.</p> <p>A level of communication continued without the initiative of the instructional team through friendships established at the summer institutes and group meetings.</p>
Lessons Learned:	<p>Improvements in student performance were not observable until after the project had ended, and, even then, promised to be complex and expensive to assess.</p> <p>Given the demands associated with advancing academic standards, limited school budgets and the changing composition of student populations, teachers in the project reported that they often felt overwhelmed in "just doing their job" and had little time, energy or support for implementing curricular or instructional changes in their classroom. They suggested the inclusion of their administrators in this training. Project would have been more effective if 'teams' from schools had participated. Some participants lacked elemental mathematics content and were limited in ability to implement. A major challenge was scheduling.</p>

Project 13

Fiscal Agent:	Cohort 2 – University of Washington Seattle
Project Name:	North Central Washington Reading Consortium
Contract Period:	5/3/2004-9/30/2006
Subj. Area Focus:	Reading

Project Description:	Goal was to increase teaching skills of teachers in content-area reading; increase instructional leadership skills of teachers; encourage development of learning communities within and across districts. Desired outcomes were to increase participant content reading knowledge, increase teacher skills in reading instruction, to increase student performance in reading, and to create school-based teams to initiate mechanism for school-wide reform in reading. Two summer institutes each summer. On-line teaching and learning community. Academic year classroom observations and after-school professional development sessions.
Results Description:	Bridgeport High School: Teachers have implemented reading strategies and trained other teachers. Wright Elementary School: Teachers instituted reading progress monitoring using DIBELS and adopted a reading instruction program. Students showed improvement. Bridgeport Middle School: Teachers adopted new reading curriculum.
Extent to which goals were Accomplished/ Internal Evaluation:	Some evidence of effectiveness based on teacher self-report and WASL scores in some schools.
Lessons Learned:	What worked: peer observations, inquiry project to investigate issues related to students' reading practice, daily advisory period with students, teaching of common core reading strategies, students reading with partners, increased reading instruction in kindergarten, student coaching for school survival dispositions and skills. Scheduling of professional development workshops was difficult; some teachers did not attend due to geographical challenges. Some participants indicated that they often felt overwhelmed by the demands of helping students.

Project 14

Fiscal Agent:	Cohort 2 - Yakima Valley Community College
Project Name:	Sunnyside 'Pathways for Paraprofessionals' Project

Contract Period:	5/13/2004-12/31/2006
Subj. Area Focus:	Reading & Math
Project Description:	Goal was to increase reading and mathematics content knowledge of paraprofessionals; to increase instructional skills of paraprofessionals; to increase paraprofessionals' knowledge of college, financial aid, and to develop an educational plan; to increase teachers' skill in creating team-approach to teaching, including having paraprofessionals deliver instructional content; to create and deliver a sustainable hybrid online professional development model.
Results Description:	<p>Provided on-site courses in reading and math content knowledge.</p> <p>Supervising teachers took an active role to assist paraprofessionals in preparing and studying for ETS test.</p> <p>Developed sustainable hybrid online professional development model.</p> <p>Increased the quality of paraprofessionals in Grandview and Sunnyside School Districts (helped them pass ETS exam, earn college credit).</p> <p>Contributed to an increase in student reading scores (WASL scores increased in correlation with Title II paraprofessional development activities).</p> <p>Anecdotal information from supervising teachers showed that paraprofessionals infused new instructional skills in working with children in the classroom.</p> <p>100% of paraprofessionals developed career and educational goals.</p> <p>Developed sustainable paraprofessional training models.</p>
Extent to which goals were Accomplished/ Internal Evaluation:	WASL reading and MAP scores correlated with professional development activities; most participants seek Associates degree or Bachelors degree following professional development. On-line tutorial and courses developed by partner institutions.
Lessons Learned:	Project connected with existing professional development offered through OSPI and other entities. Originally 91 participants in the program, but only 75 continued with program. Attrition due to changes in personal situations.

Project 15

Fiscal Agent:	Cohort 3 - Saint Martin's University
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Project Name:	Math for All Students
Contract Period:	2/1/2005-1/31/2007
Subj. Area Focus:	Math
Project Description:	Goal: teach teachers to assist struggling mathematics students by: increasing teacher math knowledge and skills; establishing community learning network; increasing teacher knowledge of standards, assessment requirements and strategies for struggling students. Summer institute, one-day workshops during school year, community learning network.
Results Description:	Teachers learned how to use software in mathematics curriculum; teachers examined curriculum in terms of EALRS, GLEs.
Extent to which goals were Accomplished/ Internal Evaluation:	Pre- and post-participant survey with positive results. Samples of participant work.
Lessons Learned:	Teacher self-reports suggested teachers benefited from activities. Lack evidence of impact on student achievement.

Project 16

Fiscal Agent:	Cohort 3 – University of Washington Tacoma
Project Name:	Project BERS: Building Essential Reading Skills (BERS)
Contract Period:	2/1/2005-9/30/2006
Subj. Area Focus:	Reading
Project Description:	Goal was to build capacity of middle school teachers and staff to screen, diagnose, monitor, and measure outcomes in reading; build capacity of teachers to apply reading instruction to middle school students with reading difficulty; examine effectiveness of intervention; conduct reading intervention summit for special education and Title I teachers.

Results Description:	<p>Pre-and post- tests of teachers' ability to use reading assessments found large, statistically significant gains. Participants' reading instruction quality improved.</p> <p>Degree to which teachers implemented programs with fidelity impacted student performance.</p> <p>Strong, self-reported capacity to provide high-quality reading instruction and assessment to middle school students (participant pre- and post-survey showed statistically significant gains).</p> <p>Qualitative data from educators who participated in the summit were positive.</p>
Extent to which goals were Accomplished/ Internal Evaluation:	Teachers increased ability to assess student by 40-50%; developed site-based systems to monitor student progress; significant gains in student test scores.
Lessons Learned:	Teachers learned how to use reading assessments and to apply interventions appropriately; teachers and schools developed internal systems for collecting data and using data across teaching staff.

Project 17

Fiscal Agent:	Cohort 3 – Washington State University, Pullman
Project Name:	Reading the Word and the World: Scaffolding Reading Experiences for Second Language Learners
Contract Period:	2/1/2005-4/30/2006
Subj. Area Focus:	Reading
Project Description:	<p>Teachers were introduced to scaffolding concept and skills through teachers-teaching-teachers model. Lessons learned were disseminated to 427 pre-service and in-service teachers and related staff. On-line professional development. 7 week web-based graduate level course, preceded by a one week introduction broadcast.</p> <p>Project used Scaffolded Reading Experiences.</p>
Results Description:	<p>Web-based course was launched with 14 teachers who completed all assignments. Week-long introductory workshop, followed by scaffolding resources disseminated locally via wide range of strategies and methods. Examples of participant assignments demonstrate learning.</p> <p>Other School districts have asked to work with WSU on similar projects.</p>

Extent to which goals were Accomplished/ Internal Evaluation:	Little consistent evidence to demonstrate level of success; no connection to student achievement was demonstrated.
Lessons Learned:	The on-line component of the project held some promise for engaging teachers about their practice.

Project 18

Fiscal Agent:	Cohort 3 – Washington State University, Pullman
Project Name:	Partnerships in Inquiry
Contract Period:	2/1/2005-8/31/2007
Subj. Area Focus:	Reading & Math
Project Description:	Goal was to create and develop professional learning teams (PLT) in reading and/or in mathematics across grade levels, as determined by individual schools in the project; produced six teaching digital videodisks for reading and math and disseminated DVDs throughout Washington schools. Constructed and promoted professional development process at each school to positively affect student learning. Disseminated project PLT model to local, regional, state and national levels.
Results Description:	Schools incorporated project activities into professional development plan. Notable was that model was not replicated but rather customized for each school involved in the project. DVD provided introduction to PLT concept. As a result of implementation of PLTs, student intervention strategies increased, use of diagnostic tools increased (Fife Middle School), differentiated instruction increased (Lincoln Middle School), increased teacher knowledge of GLEs and increased student performance on assessments at lower grades (Markham). Activities resulted in increases in trust and respect and mutual responsibility for student achievement (Tapteal teachers).
Extent to which goals were Accomplished/ Internal Evaluation:	Elementary schools reported significant improvement in communication among staff. Principals reported that teachers became more student focused. MAP test shows improvement in student math learning. Teachers more thoughtful about their teaching and student learning. Teachers have greater understanding of math.

	Greater trust and willingness to take risks.
Lessons Learned:	Changing leadership during the project impacted outcomes. PLT models difficult to measure across schools, since each was customized to fit the school's culture. Fife reported strong improvement in beginning teachers' skill and knowledge due to PLT work. Revising professional development process was based on learnings and experiences at workshops.

Project 19

Fiscal Agent:	Cohort 4 – Educational Service District 112
Project Name:	Reading Achievement Now!
Contract Period:	7/1/2005-2/28/2009
Subj. Area Focus:	Reading
Project Description:	Increase content knowledge of teachers and principals in reading; increase teaching skills of teachers in core subject of reading; increase instructional leadership skills of principals and teachers; build capacity for reforms in reading instruction. 3 day institute plus day-long workshops during school year
Results Description:	Teacher leaders modeled content-specific strategies. Participants developed personal action plans for their teaching. Teacher leaders report that they continue to learn and improve their own practice as they help new participants. Sustained professional development supported by grant staff site visits. Teachers have met, discussed, read, experimented and studied as they learned new ways to embed reading/learning strategies in their classrooms. Principals have been bought in on the purpose of the grant and appreciate the connections made among teachers regarding reading in the content areas. Teachers have been in each other's classrooms for demonstrations and observations. Participants have conducted staff development sessions that have facilitated collective efforts to embed reading and learning strategies across the content areas in important ways. Reported success in connecting the reading/learning strategies to state learning standards has been evident when participating

	teachers have shared these strategies at staff development sessions. Grant has facilitated several types of learning communities (within content areas across schools and vice versa). Response to learning communities has been positive; some teachers reported that teachers who had been previously viewed as recalcitrant suddenly became collegial and open-minded.
Extent to which goals were Accomplished/ Internal Evaluation:	Teachers report increased focus on how students learn; teachers took responsibility for leading other teachers at their schools. No evidence of increased student achievement. Evaluative activities included pre- and post-surveys, on-site teacher interviews, student pre- and post-surveys, and on-site observations of staff development sessions.
Lessons Learned:	One teacher noted some challenges to implementing strategies (student apathy, low motivation and lack of time due to responsibilities at school). Some participants indicated that they often felt overwhelmed by the demands of helping students improve reading and gaining content area knowledge.

Project 20

Fiscal Agent:	Cohort 4 – Washington State University, Pullman
Project Name:	The Partners Project
Contract Period:	8/16/2005-8/16/2006
Subj. Area Focus:	Reading
Project Description:	Help teachers involve parents in reading achievement of their children. Provide a model for language minority learner/parent involvement in schools. Develop responsive, effective, technologically-enhanced partnerships between teachers and parents of English Language Learners. On-site visits to help teachers understand the project and the literature. Various dissemination activities. The electronic discussion forum served as an outstanding focus for sharing among teachers.
Results Description:	Interactive homework assignments were useful, effective and relatively simple tasks for school-to-home literacy connections. Parents expressed appreciation for better communication with teachers and a clearer understanding of the expectations of their

	<p>child's school and the teacher. Project instituted use of technology in many forms as a connector for school and home and as a support for literacy. Making materials and resources widely available via the Internet and other public forums so that other teachers in Washington State and throughout the country can take advantage of what we have learned through this project. A small but active participant base that allowed project participants to try out a variety of strategies and deepen understanding of the successes and failures of the project. Participants emerging from the project with changed understandings, expectations, and skills regarding schooling, communication with parents, the effectiveness of using technology even if limited, and ways to creatively connect literacy tasks to student lives beyond school. The use of technology by teachers and parents to increase the reading achievement of their students. Teacher cohort groups were involved in the professional development of their colleagues that supported the development of instructional leadership skills of participants and led to additional in-service teachers, and thereby learners, being served. Battle Ground teachers scheduled an in-service day for their district that addresses ideas from both the HECB Reading grant and the Partners grant. A model of professional development in which teachers increase and share their pedagogical content knowledge. The initial barriers met, such as attitudes, access, and teachers trying to reinvent the wheel, not only informed the project leaders but have helped to focus future projects.</p>
<p>Extent to which goals were Accomplished/ Internal Evaluation:</p>	<p>19 postings and 33 viewings on average per teacher participant. Project used on-site visits, contact hours, and numbers of participants reached through dissemination to evaluate the project. No demonstrated evidence of improved teacher quality or increased student achievement; however, a high degree of teacher engagement in professional development activities suggested future impact.</p>
<p>Lessons Learned:</p>	<p>Changes to the project plan resulted in a clearer understanding of Okanogan and other teaching contexts and led to a more specific, school-based process. Small but active participant base resulted in deep understanding of projects' successes and failures. The initial barriers met, such as attitudes, access, and teachers trying to reinvent the wheel, not only informed the project but helped focus future projects.</p>

Project 21

<p>Fiscal Agent:</p>	<p>Cohort 5 - Heritage University</p>
<p>Project Name:</p>	<p>Creating Professional Development Partnerships</p>
<p>Contract Period:</p>	<p>8/2/2006-10/31/2007</p>
<p>Subj. Area Focus:</p>	<p>Math & Reading</p>

Project Description:	Goals: to increase number of secondary teachers qualified to teach mathematics and reading to ELL and special education students; to increase reading and mathematics content knowledge and pedagogical skills of middle and high school teachers who teach ELL and special education students; to improve ability of coaches to help teachers improve strategies and content knowledge by using Sheltered Instruction Observation Protocol (SIOP) instrument in mathematics and reading content components; to involve middle and high school teachers in professional learning communities to analyze student work and to adjust instruction accordingly.
Results Description:	Two of the 21 participants earned Highly Qualified status; 6 were expected to achieve status in following year; 88% of participants reported they had increased content knowledge through this project. Mathematics pre- and post-test scores of participating teachers indicate overall positive change; no evidence of change in reading area. Coaching skills were improved, based on journal entries of participants. Professional Learning Communities (PLCs) were established (outcomes undetermined). Some evidence that student performance improved based on WASL scores reviewed by third party evaluator.
Extent to which goals were Accomplished/ Internal Evaluation:	Portfolios, coach observation, a third party evaluation, and self-reports from teachers suggested success in reaching some project goals and influencing student achievement.
Lessons Learned:	Particularly effective was the development of PLCs to review and analyze student work. Teachers reported learning through this process. There was not enough time for more teachers to become highly qualified - required great flexibility to have all teachers participating in content classes. PLCs served to pull separate strands together (content work, SIOP training, analysis of student work, and plans to adjust instruction).

Project 22

Fiscal Agent:	Cohort 5 - Saint Martin's University
Project Name:	Reading Comprehension Achievement through Strategic Coaching and Collaboration

Contract Period:	7/26/2006-6/30/2007
Subj. Area Focus:	Reading
Project Description:	Goals were to increase teacher content knowledge; to increase teacher teaching skills; and to increase instructional leadership.
Results Description:	Teachers reported they increased their content knowledge, increased their teaching skills, and increased their instructional leadership abilities through PLC engagement
Extent to which goals were Accomplished/ Internal Evaluation:	Teacher self-reports suggest some success in reaching project goals.
Lessons Learned:	Coaching, PLCs, after school study groups, and forums were reported to be effective vehicles for creating changes in teachers.

Project 23

Fiscal Agent:	Cohort 5 – University of Washington Seattle
Project Name:	Mathematics in Context: Increasing Student Performance by Expanding Professional Learning Communities
Contract Period:	7/19/2006-9/30/2007
Subj. Area Focus:	Math
Project Description:	Project goals were to enhance mathematics content knowledge and teaching skills using inquiry- and project-based learning, through the development of Professional Learning Communities (PLCs).
Results Description:	Teachers demonstrated engagement in activities and were observed to participate by presenting and gaining peer responses. Teachers generated and collected lesson plan resources as a result of their collective work.

Extent to which goals were Accomplished/ Internal Evaluation:	Evaluation process was primarily focused on delivering experiences with little evidence of impacts; teachers were observed at project events.
Lessons Learned:	Development of lesson plans as shared resource and planning for PLC. Evaluation of the project did not provide means for measuring impact on student achievement.

Project 24

Fiscal Agent:	Cohort 5 – University of Washington Seattle
Project Name:	Project TIER: Targeting Instructional Effectiveness in Reading
Contract Period:	7/25/2006-10/31/2007
Subj. Area Focus:	Reading
Project Description:	Project attempted to build capacity of middle school teachers and staff to screen, diagnose, monitor progress, and measure outcomes in reading; to build capacity of teachers to apply scientifically-based reading instruction to middle school students with reading difficulties; to examine effectiveness of intensive remedial reading instruction to middle school students with reading difficulties.
Results Description:	Teachers significantly improved skills and knowledge in teaching remedial reading. Student reading scores improved. Teachers implemented strategies at the building level to monitor student progress. Teachers reported they improved their skills and knowledge of curriculum-based assessment for middle school students. Teachers implemented student learning plan for all students with reading difficulties. Statistically significant reading growth demonstrated by participating students.
Extent to which goals were Accomplished/ Internal Evaluation:	Teacher assessments and student assessments using instruments in this project suggested success in reaching project goals.

Lessons Learned:	Teachers improved skills and knowledge in working with middle school students with reading difficulties, based on baseline data from three assessment tools used in the project. Students reading skills improved through use of assessment tools and teachers' application of research-based reading strategies.
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Project 25

Fiscal Agent:	Cohort 5 – University of Washington Seattle
Project Name:	North Central Washington Content-Area Reading Institute
Contract Period:	8/17/2006-7/31/2008
Subj. Area Focus:	Reading
Project Description:	The project attempted to develop teaching skills in secondary level content area reading; to build upon and develop leadership capacity; to develop learning communities.
Results Description:	Most teachers reported they planned to use the strategies they learned; most teachers reported the training sessions were valuable to them; some teachers said they would implement all techniques introduced to them. Teachers' engagement in "consultancy" (structured discussion about student work) demonstrated potential for leadership capacity.
Extent to which goals were Accomplished/ Internal Evaluation:	Five of the 9 teacher participants reported they were very likely to discuss a teaching problem with a colleague. No reported evidence that learning communities were established or that student achievement was impacted by professional development. However, a HECB monitoring visit provided evidence that learning communities were established.

What Do We Know About Teacher Quality?

Intellectual Ability

- “What teachers know and can do is the most important influence on what students learn.”
- Many studies suggest a strong relationship between teachers’ verbal and mathematical abilities and student achievement. Similar studies suggest a positive relationship between teachers’ standardized test scores and student achievement.
- The most effective teachers have high intellectual and verbal ability, and a depth of knowledge that enables them to present curriculum in a variety of ways. Teachers with higher verbal ability can better convey ideas to students and communicate with them in a clear and compelling manner.
- A teacher’s level of literacy (defined as overall academic caliber and world knowledge), as measured by vocabulary and other standardized tests, affects student achievement more than any other measurable teacher attribute, including certification status.
- When teachers perform well on basic skills tests, their students also tend to do better on academic measures. A teacher’s verbal ability does matter.

Systemic Issues

- The organization and culture of a school can have a significant impact on the quality of teaching. To improve teacher quality, we must look at the instructional capacity of the entire school.
- Teacher quality depends on the system in which teachers work. For quality teaching to occur, the system should be in alignment.
- Administrators play a major role in determining the quality of teaching that occurs in that building. A strong, effective teacher may have little impact on student learning in a dysfunctional school with little administrative support.
- Some schools have formed Professional Learning Communities, where teachers meet regularly to share ideas about what is working and what is not, and to expand their knowledge and skill sets. This is consistent with research that lists collegiality and collaboration as earmarks of effective teachers.
- Improving the quality of teaching will require that schools develop a philosophy that supports inquiry, deep content and seeing relationships.
- There must be a culture of high expectations for students and teachers. Does the school value teacher learning, collegiality and cooperation?
- We must adopt a Continuous Quality Improvement philosophy for education, i.e., we continually seek improvement. Change must be system wide, not just about improving individual teachers.
- Teacher evaluations affect quality. Are evaluations designed and conducted in a way that contributes to quality instruction?
- Inconsistent educational policies have a negative effect on quality teaching.
- Teaching a grade level or subject for which a teacher is not certified or has little training may convert a highly qualified and capable teacher into an ineffective one.

Experience

- Teacher experience, up to a point, is definitely correlated to teacher effectiveness. Some studies suggest that experience beyond six years has little significant effect. One way to improve teacher quality is to make sure that teachers stay on the job long enough to get the experience that will produce the required quality.
- Experienced teachers have a greater repertoire for preparing lessons and responding to students. Experienced, effective teachers know both the content and their students, and practice interactive decision-making. They can do more in less time because they make connections and see relationships, and are effective at moving from one task to another.
- Experienced, effective teachers tend to know and understand their students' learning needs, learning styles, prerequisite skills, and interests better than less experienced teachers. They are better able to apply a range of teaching strategies and demonstrate more depth and differentiation in learning activities.
- Newer teachers are more likely to stick to the script, rather than improvise. (In some districts, the way teachers are evaluated determines how much they improvise.)

Personal Qualities and Skills

- Techniques and instructional strategies have nearly as much influence on student learning as aptitude.
- Some researchers differentiate between good teaching and successful teaching. The former focuses on what teachers do, and the latter on what students learn. In other words, although a teacher can follow a lesson plan exactly, and cover the curriculum as prescribed, students may not be learning.
- Effective teachers must be able to see connections and help students make those connections, and integrate a variety of content and ideas into their teaching. They recognize the importance of linking instruction to real life.
- The ability to engage and motivate students effectively is an important element of quality teaching. The focus here is on how students experience school, rather than on what teachers do. Effective teachers are motivational leaders. Their enthusiasm for learning and for the subject matter under study has been shown to be an important factor in student motivation, which is closely linked to student achievement.
- Some researchers recommend that “dispositions” be included in the discussion of quality teaching. These include such things as values, commitments, belief systems and professional ethics that influence behaviors toward students, families, colleagues and communities; temperament, character, personality, nature, demeanor, frame of mind, emotional characteristics, moral and ethical qualities, the ability to form relationships, and caring, i.e., helping another person grow and actualize her/himself.
- Most of what makes a teacher effective are the “soft” personal attributes that are much harder to measure. Seven personal attributes of effective teachers from Teach for America (www.teacherforamerica.org/corps/teaching/becoming_exceptional_teachers.htm) research are:
 - High achieving: A history of success, no matter what the endeavor.

- Responsibility: Rather than blaming others or circumstances, the individual takes full responsibility for achieving a positive outcome.
- Critical thinking: The individual reflects about the linkages between cause and effect instead of simply reacting to the effect.
- Organized: The individual is able to juggle multiple tasks successfully.
- Motivating: The individual is able to influence and motivate others to action, as evidenced by effective leadership in extracurricular activities such as student run organizations or athletic teams.
- Respectful: The individual assumes the best about people, especially people in low-income communities.
- Shares the goal of the organization: The individual wants to work toward TFA's mission of eliminating educational inequities.
- Teacher qualities related to higher achievement—
 - Content knowledge
 - Teaching experience
 - Teacher training and credentials
 - Overall academic ability, especially verbal ability
- Educators should be more research-oriented, should both be conducting and using research. They also should be willing and able to translate research into action. (They will need assistance in doing this.)
- There appear to be differences between quality teaching at the elementary level and at the secondary level. The latter is more content oriented.
- Six standards/practices of quality teachers—
 - Engaging and supporting all students in learning.
 - Creating and maintaining effective environments for student learning.
 - Understanding and organizing subject matter for student learning.
 - Planning instruction and designing learning experiences for all students.
 - Assessing student learning.
 - Developing as a professional educator.
 - Teachers should be able to articulate how they are doing these things.
- Five common principles regarding teaching practice.
 - Building on students' prior knowledge (how do we know what they know?).
 - Linking goals, assessment and instruction.
 - Specific, ambitious learning goals, use frequent assessments to monitor students' progress toward those goals, and continually adjust instruction based on what they learn from assessments.
 - Effective teachers focus both on content and on critical thinking.
 - Developing students' language skills (vocabulary).
 - Creating a culture of learning; establishing a learning community, rather than a roomful of students.
- From Qualities of Effective Teachers
 - Effective teachers minimize discipline time and accentuate instructional time.
 - Effective teachers interpret and respond to inappropriate behavior promptly.
 - Effective teachers maintain clear rules and procedures, and establish credibility with students through fair and consistent implementation of discipline.

- Effective teachers reinforce and reiterate the expectations for positive behavior.
- Effective teachers have a conscious orientation toward teaching and learning. (This is different than “doing.”)
- Effective teachers know how to build trust with students.
- Effective teachers are able to anticipate student knowledge and potential difficulties and to direct instruction to meet individual needs of all students.
- The ability to apply and integrate knowledge or skills to a particular population in a specific setting is the key characteristic of an effective teacher.
- Effective teachers are skilled at conveying content to students in a way that they can grasp, use and remember it.
- Various effectiveness studies indicate that the teacher’s psychological influence on students is substantial. (Link to positive emotional climate.)
- Role of Caring: Effective teachers care about their students and demonstrate that they care in such a way that their students are aware of it. Caring has been defined as “an act of bringing out the best in students through affirmation and encouragement.” Caring qualities include patience, trust, honesty, courage, gentleness, listening, understanding, knowledge of students as individuals, warmth and encouragement, and overall love for children.
- Effective teachers are flexible, adaptable and able to improvise. Their classrooms are dynamic. They look for and take advantage of teachable moments.
- Effective teachers consciously listen to students, pay attention to what they are saying, and convey a sense of understanding of what is being said.
- Effective teachers understand students’ questions and concerns.
- Effective teachers know their students individually, understanding their personalities, likes, dislikes, and personal situations. They are aware of students’ cultures outside the school, and know how to respond to them.
- Constructive social interactions between teachers and students not only contribute to student learning and achievement, but also increase student self-esteem by fostering feelings of belonging to the classroom and to the school.
- Effective teachers are aware of their own style of interacting with students, and are able to provide a more favorable learning environment for all students.
- Effective teachers consistently behave in a friendly and personal manner, while maintaining appropriate boundaries.
- Effective teachers are informal leaders on the cutting edge of reform and are not afraid to take risks to improve education for all students.
- Teachers who provide mastery learning techniques for their students improve the attitudes of their students. They also increase academic self-concept (self-efficacy), interest in the subject area, and the desire to learn more about the subject.
- Effective teachers have high expectations for all students. They truly believe that all students can learn.
- Thoughtful reflection translates into enhanced teacher efficacy, and a teacher’s sense of efficacy has an impact on how s/he approaches both instructional content and students. Belief in one’s efficacy and maintaining high expectations for students are common among teachers who reflect. Effective teachers continually reflect on their

teaching, and practice self-evaluation and self-critique as learning tools. They portray themselves as students of learning. They constantly improve lessons, think about how to teach particular children, and seek and try out new approaches in the classroom to better meet the needs of their learners. Effective teachers are not afraid of feedback; in fact, they elicit information and criticism from others. They readily accept constructive criticism and reflect upon it. They view themselves as being responsible for the success of their students.

- Effective teachers who consistently prioritize instruction and student learning as the central purposes of schooling communicate an enthusiasm and dedication to learning that students reflect in their own behaviors and practice.
- Effective teachers allow students to participate in decision making.
- Effective teachers understand and practice good classroom management. They can multitask; are keen observers of student behaviors and adept at discerning and addressing potential disruptions; and try to ensure that there is no “down time,” i.e., time when students are not involved in learning. Over and over again the term “with-it-ness,” meaning awareness of surroundings, is used to describe teachers who are effective classroom managers.
- Students indicate that effective teachers spend more time interacting and working directly with them than ineffective teachers. Effective teachers demonstrate a sense of fun and a willingness to play or participate, have a good sense of humor, and are willing to share jokes.
- Effective teachers consider students’ learning styles when planning lessons. They also systematically develop objectives, questions and activities that reflect higher-level and lower-level cognitive skills as appropriate.
- Effective teachers develop and regularly integrate inquiry-based, hands-on learning activities, critical thinking skills, and assessments into daily lesson plans. Hands-on learning, especially in science, has a positive effect on student achievement.
- Effective teachers seek a range of instructional strategies. They routinely combine instructional techniques that involve individual, small group and whole-class instruction. They use concept mapping and graphic organizers. Students have higher achievement rates when the focus of instruction is on meaningful conceptualization, especially when it emphasizes their own knowledge of the world.