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ABSTRACT

During the 2000-2001 school year, the Washington State Institute for Public Policy conducted a study of how public high schools in Washington State are responding to state education reform. One aspect of the study was the experiences of high schools with various strategies to increase student engagement in learning. This paper summarizes study findings and highlights the implications of the research for schools, policymakers, and researchers. In early 2001, researchers conducted a survey of high school principals to which they received responses from 212 schools, representing 65% of all high school students in the state. Eight high schools were selected for more detailed case studies, and interviews were conducted with 18 administrators, 185 teachers and staff, 210 students, and 60 parents and community members. Findings show that approximately one-third of Washington's high schools are actively or very actively implementing portfolios, projects, pathways, and plans simultaneously. Case study participants believe that portfolios and projects need to be integrated into students overall education in order to be effective. They report that achieving integration takes high levels of time, resources, and commitment. Educators and parents also perceive that the demand to meet state learning standards could be in competition with efforts to engage students in learning. The study suggests that intensity seems to matter in implementation, that direction and support from policymakers may be needed, and that baseline research can be valid and valuable for policy and practice. (Contains 6 endnotes and 19 references.) (SLD)

Strategies to Engage Students in Learning:

Results of a Statewide Survey of Public High Schools in Washington State

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Introduction

The comprehensive American high school has long been under attack for failing to meet multiple expectations, and a wide range of reforms are being discussed and tried at the national, school district, and individual building level. Many of these efforts to redesign high school have a common theme: to increase student engagement in learning. During the 2000–2001 school year, the Washington State Institute for Public Policy (Institute) conducted a study of how public high schools in Washington State are responding to state education reform. High schools' experiences with various strategies to increase student engagement in learning was one aspect of the study. This paper summarizes study findings and highlights the implications of this research for schools, policymakers, and researchers.

Background and Context

Characteristics and Criticisms of the American High School. Over time, the opinions of parents, educators, prospective employers, colleges, and the general public have helped shape the curriculum and organization of American high schools (Angus and Mirel, 1999). High schools are expected to offer a wide range of courses tailored to the diverse abilities and interests of students. It has generally been assumed that not all students need or are capable of rigorous academic coursework (Marsh and Codding, 1999). Therefore, high schools have offered curricula with "something for everyone": challenging academic subjects and honors courses for those who are college-bound, vocational training for those who are headed immediately to the workplace, and an array of other courses of varying levels of difficulty for those who have not yet made decisions about their post-high school plans.

Due to the economies of scale necessary to offer a curriculum and extra-curricular activities that cater to the diverse student body, many high schools have grown quite large. Nationally, high schools average 1,200 or more students. Since they are the primary organization in the lives of teens, high schools serve multiple functions by providing social interaction through clubs, sports, and other extracurricular activities as well as access to social services and health care (Murphy, 2001).

The belief that high schools should offer a comprehensive curriculum and serve as a multi-purpose institution persists. However, by the early 1980s, the quality of the product—a high school education—was increasingly called into question. High schools have been criticized for the low quality of (and high enrollment in) the general education track (Oakes, 1992), the lack of academic rigor for all students (National Commission on Excellence in Education, 1983), and a failure to prepare students adequately for work (Commission on Youth and America's Future, 1988).

Educators and parents of high school students are also concerned about low student engagement in learning. Surveys of students show a large proportion (perhaps 40 percent) are not actively interested in or committed to learning in high school (Steinberg, 1996). They find their classes boring, are assigned little homework, and do not feel motivated toward high performance by the goal of obtaining a diploma. Studies suggest that in order

for students to be motivated, they need to believe that what they learn in school is relevant to the world outside the classroom and see a connection between learning, high achievement, and their own personal goals (Steinberg, 1996).

A variety of causes for low student engagement have been suggested. As a reward for orderly behavior, high school teachers may place low demands on students (Murphy, 2001). Parents are less likely to be actively involved in high schools (NCES, 2000-062). The instructional tasks students are asked to perform may be rote and repetitive, rather than focused on developing skills they will use in the future, such as problem-solving, analysis, and presentation (Newmann, 1996). Finally, some suggest that the large size of many high schools precludes close relationships between teachers and students and creates an impersonal atmosphere where students do not feel connected to either the people or the purpose of school (Murphy, 2001).

High School Reform and Strategies to Increase Student Engagement. Because current reform efforts address multiple criticisms, they tend to have multiple objectives: increase rigor through high expectations and standards,[1] integrate vocational and academic education (SREB, 1992), create more personal learning environments (Murphy, 2001), and make explicit linkages between learning in high school and students' future goals. However, a common theme of many of these reforms is to increase student engagement in learning.

To accomplish this goal, high schools are encouraged to try a number of strategies. Some researchers suggest using portfolios, "purposeful collections of student work that exhibit the student's efforts, progress, and achievements" (Paulson, 1991). In theory, student engagement in the learning process should occur as they select the portfolio contents and analyze and reflect on their accomplishments over time.

Others recommend that students prepare a culminating (or capstone) project that shows they can use their knowledge and skills outside the classroom (Marsh and Codding, 1999). Supporters say both portfolios and culminating projects encourage students to take an interest in what they are learning, authentically assess students' critical thinking and problem-solving skills, demonstrate accumulated knowledge and skills to parents and the community, and assist with making educational and career decisions (Arter, 1995). High schools may also try culminating projects as a way to keep seniors involved and motivated during their last year of school (Tsuzuki, 1995).

To improve linkages between what students learn in school and their future goals, high schools are experimenting with organizing courses, instruction, and activities around career themes or career pathways, such as Health and Human Services, Business, or Science and Engineering (NCES, 2000-029). The most intensive way to implement career pathways is through a career academy, where entire schools or schools-within-schools are geared to careers in a broad industry group (Stern, 2000). To encourage students to prepare for the future, many are asked to create plans for their high school education and one year after graduation.

Limited Research on Effectiveness. Much of the research on portfolios and projects has addressed their use as an alternative form of student assessment. Portfolios and projects are perceived as beneficial because they provide an in-depth look at what students know

and can do, and students can apply their knowledge and skills in a more realistic or authentic way than standardized tests allow. Unfortunately, there is only anecdotal research evidence to support claims that portfolios and culminating projects increase student engagement in learning (Arter, 1995). It is also largely unknown whether portfolios, projects, and other culminating activities are reliable measures of what students know and can do, or how well they predict future performance outside the school environment (Mathematica, 1999). One proponent admits that culminating projects may only be a "modest" reform (Tsuzuki, 1995).

Most national research on career pathways and career planning has been conducted on highly structured programs, such as career academies. Researchers have found positive student outcomes (lower dropout rates, higher academic credit earnings, and increased graduation rates) for career academies, but the results vary depending on how formally the academy is organized around career themes and how strongly integrated are supporting activities, employer participation, and the high school curriculum (MDRC, 2000). One implication from this research is that it may prove difficult to identify measurable outcomes from career pathways (which are less formally organized or integrated than academies). One researcher suggests any strategy that focuses students' activities and courses and increases planning and goal-setting should be considered beneficial (Grubb, 1995), but so far, available evidence that career pathways meet their objectives is limited.

Continued Support for Implementation: Nationally and in Washington State. Lack of clear evidence of effectiveness has not diminished the interest policymakers and educators have in portfolios, culminating projects, career pathways, and educational planning. The most recent national blue ribbon panel on high school reform recommended three of these strategies (portfolios, projects, and plans) for all high school students (National Commission on High School Senior Year, 2001).

In Washington State, the 1993 Education Reform Act requires that high schools "provide students with the opportunity to pursue career and educational objectives through educational pathways that emphasize integration of academic and vocational education" (RCW 28A.655.060). Students must be allowed to choose any pathway and transfer freely among them with no impact on their graduation date. A student's choice of pathway must not limit his or her opportunity to take a course of instruction necessary to gain admission to a four-year university. Beyond this, however, no guidance is provided from the state regarding how high schools should implement educational pathways.

In 1998, the Washington State Board of Education (SBE) began to review statewide high school graduation requirements to ensure alignment with overall standards-based reform.[2] In October 2000, the SBE adopted new requirements, which will take effect for the graduating class of 2008 (WAC 180-51). Among other changes, the SBE will require each graduating student to complete a culminating project that illustrates academic learning competencies as well as critical thinking and understanding of the world of work.[3] Furthermore, each student will prepare a "high school plus" education plan to document what coursework and experiences they want to have in high school as well as what they might want to do in the year following high school graduation. The SBE's decisions were based in part on a desire for students to use their knowledge and skills and become engaged in topics and learning in a way regular coursework might not provide. The

specifics of what high schools require of students in preparing their culminating projects and education plans are left up to local school districts.

Study Purpose

The 2000 Washington State Legislature directed the Institute to examine the progress of implementation of the 1993 Education Reform Act in high schools. As in many states, Washington's standards-based reform is being phased-in over time, starting in elementary schools. Washington's high school students took state assessments based on the learning standards for the first time in the spring of 1999 and were not required to do so until the spring of 2001. Considering how recently reform has officially entered Washington's high schools, the study was intended to be a baseline portrayal of trends and challenges.

The decisions by the SBE to require culminating projects and educational plans from all students were timely in that the Institute could examine the degree to which high schools were already implementing these activities and what lessons could be learned from their experience. This information could assist other schools and highlight for the SBE and the legislature possible concerns or barriers to successful implementation. Finally, although the requirement for high schools to offer educational pathways has been part of the state's education reform law from the beginning, no examination had ever been made of how high schools were interpreting or implementing this rather broad direction. If policy changes are needed, the study time frame provides an opportunity for response before full implementation of all aspects of reform in 2008.[4]

Study Methods

Principal Survey. In February 2001, the Institute surveyed 328 high school principals, representing nearly all comprehensive public high schools in Washington State and enrolling 96 percent of all public high school students (280,634 in October 1999). From an original list of 413 high schools obtained from the Office of the Superintendent of Public Instruction (OSPI), 85 schools were removed because they were institutional schools, skills centers, alternative schools serving only one or two grade levels, or had fewer than 20 students enrolled in 10th grade. Surveys were returned from 212 schools for a 65 percent response rate. The responding schools enroll 65 percent of all high school students in the state (189,947 students in October 1999).

Survey responses were analyzed based on the size of school, geographic location in the state, and student demographics (percent minority enrollment) to determine whether they were representative of the overall population of high schools in the state. Using a chi-square analysis with $p<0.05$, the Institute determined that schools responding to the surveys were representative of the overall population across all three criteria (see Table 1).

Table 1

Comparison of Survey Responses to Overall Population

Criteria	Results of Chi-Square Analysis
Size of School More than 1,500 students 501–1,500 students 500 or fewer students	p=0.2732 No significant difference
Geographic Area (based on county) Central Puget Sound Northwest East Central Southwest	p=0.1612 No significant difference
Minority Enrollment 10% or less 11–25% 26–50% More than 50%	p=0.1399 No significant difference

One exception was that schools enrolling fewer than 250 students were under-represented.[5] Student enrollment in these small schools represents only 3.6 percent of the total enrollment in all schools surveyed. However, the analysis and statistics from this study should be interpreted with caution, as they may not represent activities of very small high schools.

The survey posed a series of questions regarding the degree the high school was currently using portfolios, culminating projects, educational pathways, and educational plans. Additional questions solicited information about how each activity was being implemented and what proportion of the student body participated at each grade level. Most questions used a four-point Likert scale to gauge the extent of high schools' implementation (e.g., a lot, some, a little, or not at all). Some questions allowed high schools to acknowledge that they were in the "planning" stages of implementation. Principals were also given the opportunity to provide additional description or comments through open-ended questions.

Case Studies. To supplement the survey data, the Institute selected eight high schools as case studies (see Table 2). Schools were selected to ensure a mix of the following features: school size, geography, student demographics (students eligible for free and reduced lunch and minority students), and grade level configuration (all schools enrolled grades 9 through 12). The Institute also intentionally selected some schools known to be implementing innovative reforms and others where the level of activity was unknown.

Table 2
Case Study High Schools

High School (District)	Number of Students	School Size	Location	Percent Free and Reduced Lunch	Percent Minority
Pasco	2,285	Large	Central	43%	62%
Moses Lake	1,742	Large	East	26%	26%
Sunnyside	1,368	Med/Large	Central	39%	69%
Mark Morris (Longview)	1,147	Medium	Southwest	16%	9%
Nathan Hale (Seattle)	1,089	Medium	West	27%	39%
Sequim	935	Med/Small	West	18%	12%
Nooksack Valley	519	Small	Northwest	29%	17%
Lake Roosevelt (Grand Coulee Dam)	299	Small	East	25%	53%

Institute staff conducted two-day visits to each high school, reviewed school documents, such as school improvement plans and staff development plans, and observed classes. Over the course of the visits, the Institute was able to interview 18 administrators, 185 teachers and staff, 210 students, and 60 parents and community members.

The Institute was assisted by a 16-member policy advisory committee composed of principals, teachers, superintendents, and representatives from various state education agencies (including community college and higher education agencies). A five-person technical advisory committee also lent their expertise and direction in crafting the survey instruments and interpreting the data.

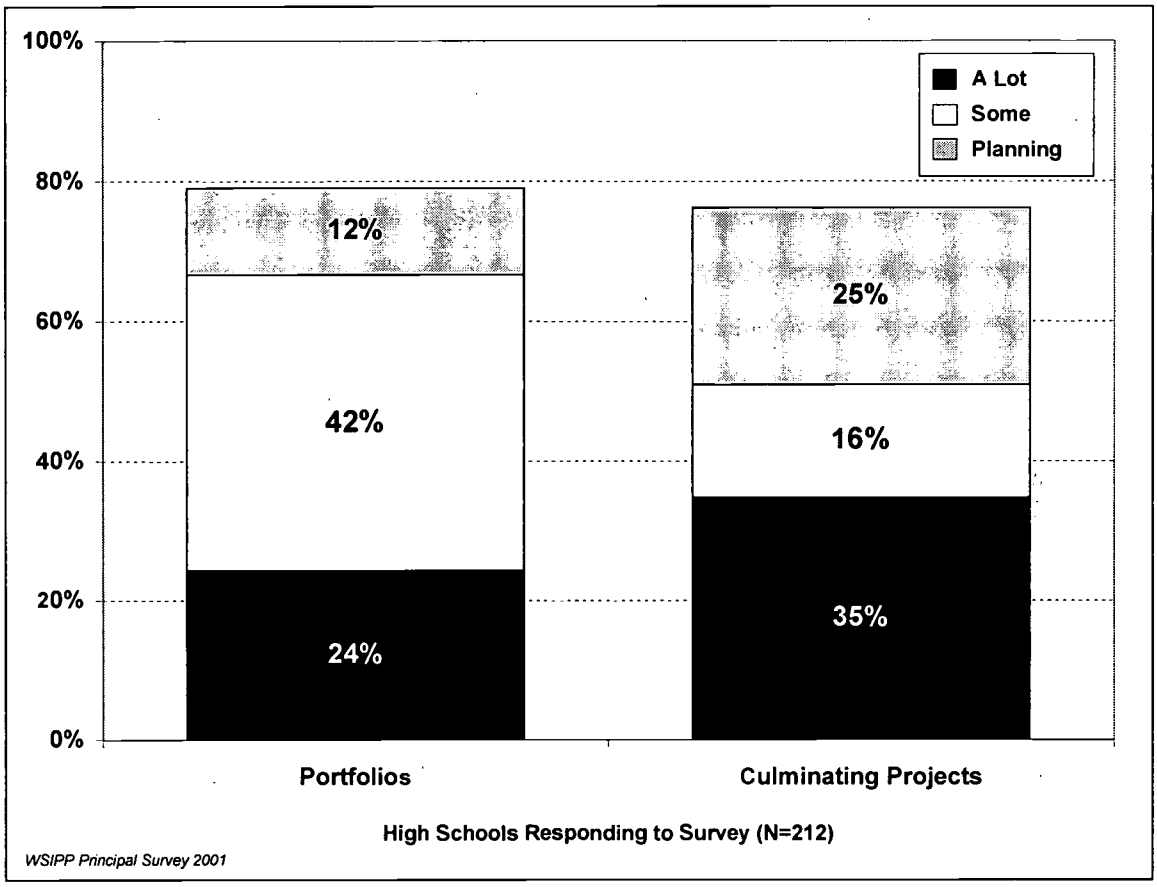
Portfolios and Culminating Projects

As the following analysis indicates, an increasing proportion of Washington's public high schools are experimenting with portfolios and culminating projects as student engagement strategies. However, the data also reveal that the depth of these activities (e.g., how formally structured they are, or how many students participate) varies considerably.

Most high schools responding to the Institute's survey currently use portfolios and culminating projects, and more schools are planning to do so. Two-thirds (66 percent) of responding high schools reported they currently use portfolios some or a lot, with an additional 12 percent planning to use them in the future (see Figure 1). Just over half (51 percent) the schools reported currently using a culminating project some or a lot, and one-quarter are planning to use them. The SBE's rules do not mention portfolios as a required

activity. However, in practice, many schools combine the two activities by having students compile a portfolio and present it as a culmination of what they have learned in high school.

Figure 1
What Proportion of High Schools Currently Use Portfolios and Culminating Projects?



Many high schools also report they are restructuring their use of portfolios or culminating projects.[6] Typical changes include combining the two activities, making one or the other a local graduation requirement, or expanding their use from only some students in some classes to all students across multiple grade levels. It is not known to what extent the level of activity in high schools predates or is in response to the SBE's high school graduation requirement.

Most portfolios combine samples of students' best work and accomplishments; some add a presentation element. Table 3 summarizes the extent high schools include students' best work, accomplishments (e.g., grades, awards, club memberships, and activities), or a presentation as part of their portfolios. In 19 percent of the high schools that use portfolios, all three elements are incorporated extensively. However, in 28 percent of the high schools, principals reported no consistent reliance on any of the three elements. In other words, any of the elements may only be used occasionally in a student portfolio. This

raises questions about how clear the overall portfolio expectation is in a substantial proportion of high schools.

Table 3
How Do Students Prepare Portfolios?

Elements Always or Usually in a Portfolio	Percent of High Schools
Best Work and Accomplishments	35%
Best Work, Accomplishments, and Presentation	19%
Accomplishments Only	14%
Best Work Only	4%

WSIPP Principal Survey 2001

Twenty-one percent of high schools that use portfolios have all students at all grade levels complete them. Of the schools using portfolios, half (51 percent) require only some students to prepare them (see Table 4). These schools may only use portfolios in certain classes, such as art or English, or with students in certain grades. For example, 31 percent of schools using portfolios reported that all seniors participate. It is not uncommon for college-bound seniors to receive assistance in compiling transcripts, awards, and letters of recommendation into a "scholarship notebook," which the high school may describe as a portfolio. However, it is not clear whether this type of activity achieves a greater purpose than helping students apply for college.

Table 4
Which Students Prepare a Portfolio?

Level of Student Participation	Percent of High Schools Using Portfolios
Some Students	51%
Most Students	28%
All Students/All Grade Levels	21%

WSIPP Principal Survey 2001

One-third of high schools using portfolios report both clear expectations for students and high levels of student participation. Data from the survey regarding how high schools structure their portfolios as well as level of student participation permits a combined analysis using both factors. Table 5 illustrates an assignment of categories that gives high schools the benefit of the doubt with regard to their degree of implementation.

Table 5

Categories for Analysis of Expectations and Participation

Portfolio Expectations		Student Participation	
Usually or Always Expected	Category		Category
Best Work, Accomplishments, and Presentation	Clear	All Students/All Grade Levels	High
Any One or More of the Three Elements	Clear	Most Students	High
None of the Three Elements	Unclear	Some Students	Low

A total of 153 high schools provided information on both expectations and student participation in portfolios. Table 6 shows the results of the analysis. While most high schools have set clear expectations for the contents of student portfolios, fewer also require most or all students to participate.

Table 6

Combined Analysis:
Expectations and Participation in Portfolios

Portfolio Expectations	Student Participation: High	Student Participation: Low
Clear	33%	41%
Unclear	8%	19%

WSIPP Principal Survey 2001

Just over half of high schools using culminating projects combine a product (comprehensive work or portfolio) with a presentation to the community. In some high schools, a research paper completed in Senior English is an example of a culminating project. In others, additional elements are added in an attempt to achieve the multiple objectives (including engaging students) described earlier. Table 7 illustrates the extent high schools expect students to complete a comprehensive work, portfolio, or presentation to the community as part of their culminating project. A comprehensive work could be a research paper, artwork, or other student-initiated product. In 28 percent of high schools that use them, the culminating project involves three elements: a comprehensive work, a student portfolio, and a presentation to the community. In 9 percent of high schools, the

three elements may only be included occasionally, so there is not a clear or consistent focus for the culminating project.

Table 7
How Do Students Prepare Culminating Projects?

Elements Always or Usually in a Project	Percent of High Schools
Comprehensive Work and/or Portfolio	32%
Comprehensive Work, Portfolio, and Presentation	28%
Comprehensive Work and Presentation	25%
Portfolio and Presentation	3%
Presentation Only	3%

WSIPP Principal Survey 2001

In slightly more than half the high schools that reported using culminating projects, students in multiple grades participate. Since culminating projects are often considered "senior" projects, it is no surprise that 56 percent of high schools using culminating projects require all seniors to complete them. A different way to conduct the analysis, however, is to examine whether students other than seniors participate in culminating projects. Culminating projects with multiple elements completed by students at different grade levels may be more likely to engage students and serve as a catalyst for schools to revamp their curriculum to support the projects (Tsuzuki, 1995).

As Table 8 shows, only 45 percent of high schools report that *only* seniors complete a culminating project. In the 55 percent of high schools where students of other grade levels participate, the high school may expect students to place materials in a portfolio beginning in 9th grade and then use the portfolio to illustrate their skills and interests as part of their culminating project.

Table 8
How Many Students Prepare Culminating Projects?

	Percent of High Schools Using Projects	
Level of Student Participation	Seniors Only	Students at Multiple Grade Levels
Some Students	12%	32%
Most Students	9%	16%
All Students	24%	7%
Total Percent of High Schools Using Projects	45%	55%

WSIPP Principal Survey 2001

Expectations and participation in culminating projects are more clearly defined than for portfolios. Categories similar to those shown in Table 5 were created for a combined analysis of expectations and participation in culminating projects. Of the 123 high schools providing information to allow a combined analysis of culminating projects, most (57 percent) had set clear expectations and expected a high level of student participation (see Table 9).

Table 9
Combined Analysis:
Expectations and Participation in Projects

Project Expectations	Student Participation: High	Student Participation: Low
Clear	57%	34%
Unclear	2%	7%

WSIPP Principal Survey 2001

More work is needed for portfolios and culminating projects to be catalysts for high school reform in Washington. High schools may have multiple objectives for requiring students to complete portfolios and culminating projects. It is not unreasonable to assume (despite limited supporting research) that activities and reforms intended to engage students in learning would be more likely to achieve that objective if they have clear expectations and structure and involve all students in the school. Results from the Institute's survey show that approximately half of high schools using culminating projects and one-third of those using portfolios reported clear expectations and high student participation. However, it is important to remember that this represents only one-fourth to one-third of *all* high schools surveyed. More work is needed as high schools move to implement the SBE's new graduation requirements. The following case study example illustrates the potential for portfolios and culminating projects to serve as an overall reform of the high school learning environment.

Mark Morris High School: Pathway to Tomorrow Project

Mark Morris High School is one of two comprehensive high schools in the Longview School District in southwest Washington. In 1995, the Longview School Board established exit outcomes to be demonstrated by all graduating students. Student competencies on the outcomes, however, were never formally assessed. Then, in 2000, the school board determined that some outcomes should be demonstrated by a culminating project, including an oral presentation. Mark Morris decided to create a project that would explicitly align with the district's exit outcomes and the state learning goals, as well as extend over the duration of a student's high school experience.

The "Pathway to Tomorrow" project was initiated in 1999 and is being phased over five years. The class of 2004 will be the first class to complete all five components of the project:

- **Student Work Portfolio**, including four required samples of "quality work" as well as student-selected samples of their best work. Quality work must have clearly established expectations and a grading rubric so students know what characteristics and attributes their work must have in order to meet the standards. The samples of quality work must also align with the state learning standards. Teachers have been working to create at least one standards-based project or product for each class offered at Mark Morris High School. If multiple teachers teach different sections of the same course, they are expected to collaborate to set common standards for the products. Starting in 2001, the high school course catalog will describe the opportunities students have to produce quality work in each class.

- **Citizenship Portfolio** that includes a requirement that students either complete 24 hours of community service over four years of high school or research a community issue that could be affected by government processes, and write a paper presenting their findings and recommendations.
- **Career Portfolio**, with interest surveys, education plan, goals, resumes, and optional job shadow or internship experiences. Students receive guidance on career pathways. Starting with the class of 2004, students must take at least two elective credits in the same pathway group.
- **Academic Portfolio**, with transcripts and test scores.
- **Celebration Presentation**, occurring at the end of the senior year. Students present their portfolios and explain how they have met the district's exit outcomes and state learning goals.

To support the project, Mark Morris has created an advisory period where students meet with a teacher once a month. Students will stay with this same teacher throughout high school. A common set of lesson plans for each grade level is being created by a project committee, and teachers prepare for the advisory and work on other staff development activities during a three-hour late arrival each month. An extensive website has been developed explaining the project and portfolio contents in detail, and teachers hope to include videos and assignment samples to further assist both students and parents.

Career Pathways and Career Plans

In Washington, the statute requiring high schools to offer educational pathways is quite broad and allows high schools a great deal of latitude in defining how to interpret and implement what the Legislature intended. No additional guidance has been provided by the Office of the Superintendent of Public Instruction (OSPI). The SBE's new graduation requirement for all students to complete a "high school plus" education plan contains no additional direction for high schools. The Institute's study found that, as with portfolios and projects, Washington high schools vary in their interpretation and degree of implementation of pathways and plans.

Two-thirds of high schools report they provide educational pathways organized around a career theme. Although Washington's statute addresses "educational pathways," the Institute presumed that high schools might follow a model of organizing courses, instruction, and activities around a career theme or career pathway, such as Health and Human Services, Business, or Science and Engineering. Indeed, 67 percent of high schools responding to the Institute's survey report organizing educational pathways around career themes. The remaining high schools reported offering educational pathways simply as part of the comprehensive high school: students are offered opportunities to take honors courses, dual credit such as Advanced Placement, dual enrollment with local community colleges, vocational training, Tech Prep, and work-based learning. It is up to students to initiate their participation in these "pathways."

No more than one-third of high schools reported extensive use of any one strategy to support career pathways. Many high schools have booklets that categorize different occupations into pathways. Information is usually available about which high school courses should be completed depending on the student's choice of pathway. The booklets may be used by the counseling office to advise students about course registration or post-high school plans. It is unclear whether this degree of implementation engages students in making a more direct link between current learning and their future career opportunities. There are, however, additional strategies a high school could use to bolster implementation of pathways and integrate the concepts of career exploration and career planning more fully into students' high school experience. Table 10 shows current use of these strategies by high schools using career pathways.

Table 10

How Do High Schools Implement Career Pathways?

Implementation Strategy	Percent of High Schools Using Career Pathways "A Lot"	"Some"
Courses have been modified to reflect career themes.	11%	50%
Work-based learning, projects, and other activities are based on career themes.	24%	57%
Students are encouraged to choose electives based on their pathway.	31%	52%
Staff have received training to implement career-themed pathways.	13%	50%
Materials and topics for portfolios and culminating projects reflect a student's pathway.	19%	24%

WSIPP Principal Survey 2001

In fewer than one-third of high schools using career pathways, all students choose a pathway. Table 11 illustrates the extent high schools expect students to be an active participant in a career pathway by actually choosing one. Educators in the case study schools stated that "which" pathway a student chooses is less important than the exploration and self-discovery that can occur through the decision-making process.

Table 11

How Many Students Choose a Career-Themed Pathway?

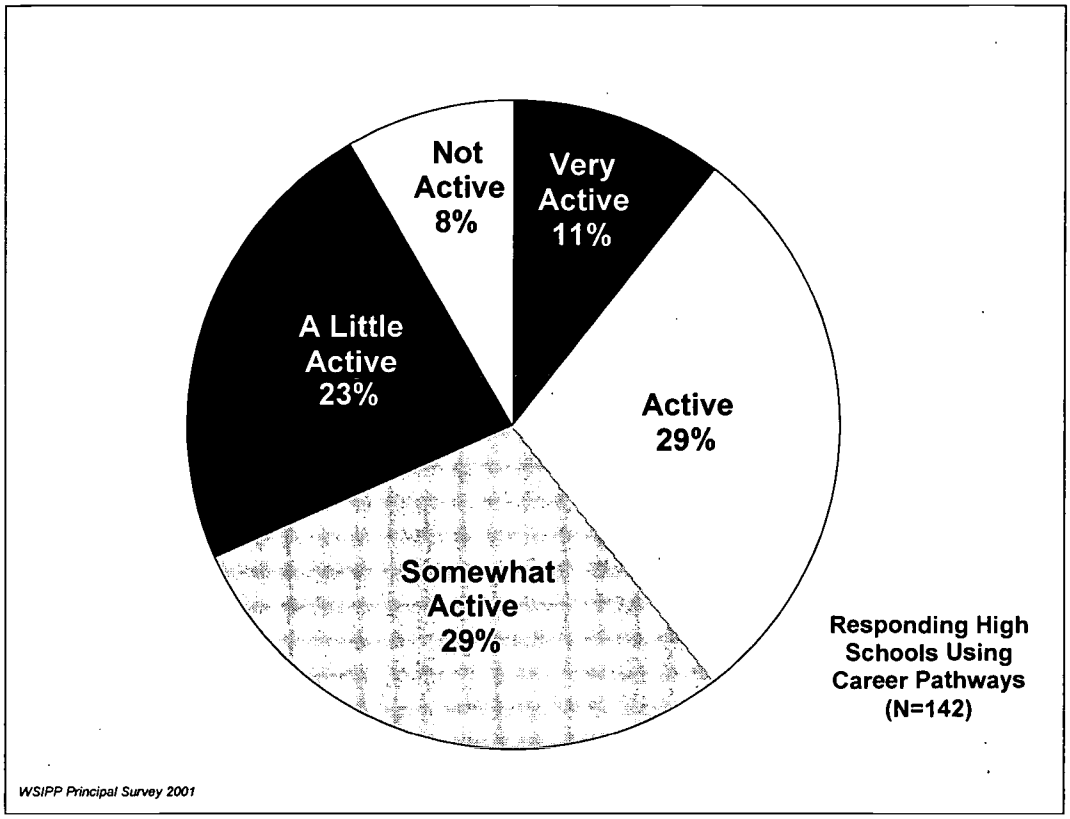
Level of Student Participation	Percent of High Schools Using Pathways
Few or No Students	13%
Some Students	34%
Most Students	23%
All Students	30%

WSIPP Principal Survey 2001

Eleven percent of surveyed high schools are very actively implementing career pathways for students. Survey responses permitted analysis of the extent high schools are relying on multiple activities to support implementation of their career pathways. For this analysis, the Institute combined responses for each of the five supporting activities shown in Table 10, along with responses on level of student participation. A composite score was created for each high school. The range of possible composite scores (6 through 24) was divided into five score groups, and high schools in each score group were assigned a description from "Very Active" to "Not Active." Figure 2 shows the results of this analysis.

Figure 2

How Actively Are High Schools Implementing Career Pathways?

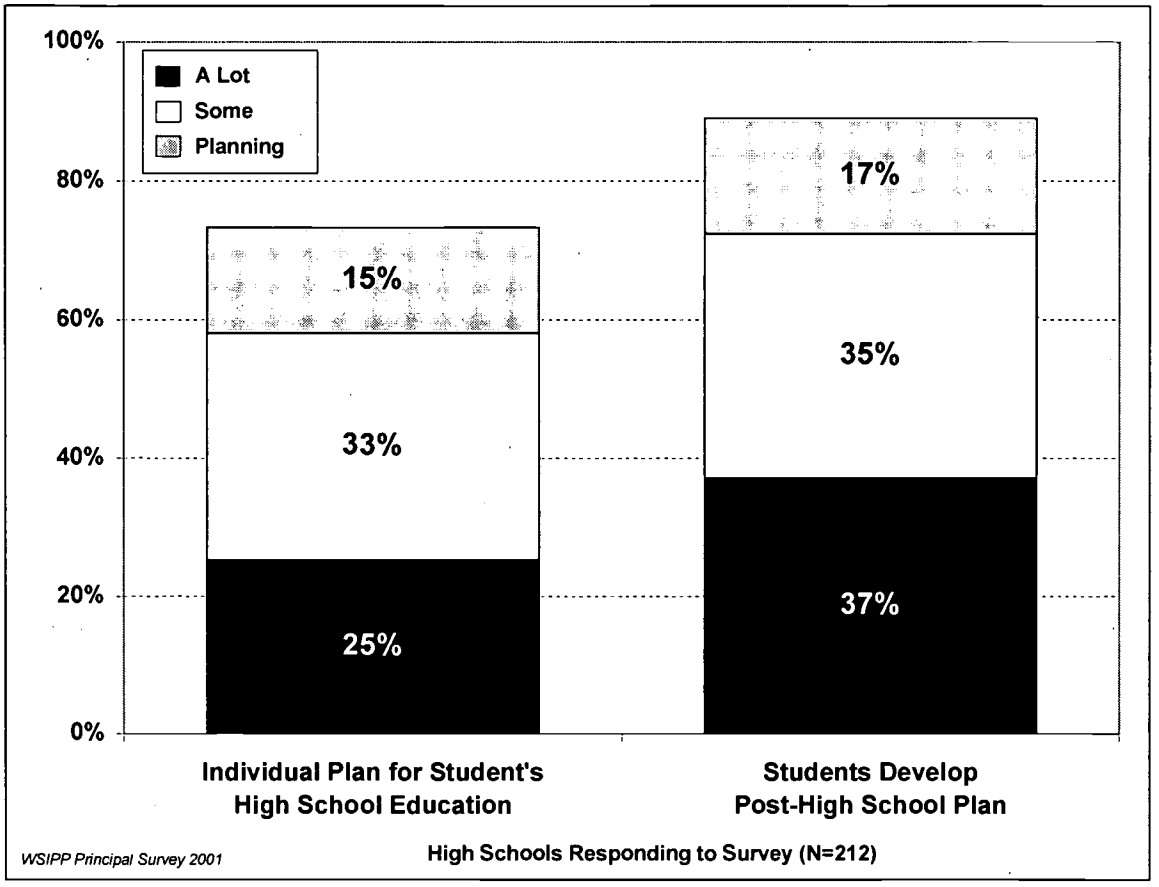


Most, but not all, high schools use individual educational plans with students. Figure 3 shows 58 percent of high schools responding to the survey reported that students prepare individual plans to guide their high school education; an additional 15 percent of high schools are planning to have students prepare high school plans. Seventy-two percent reported students develop plans for what they want to do immediately after high school, with 17 percent planning to have students complete them. Both types of plans would be required for all students under the SBE's high school graduation requirements.

The Institute's survey did not capture additional detail about high schools' implementation of the planning requirement. Several of the case study schools have students complete a form to be placed in their student file (in the counseling office) listing which courses they wish to take during high school and checking a box indicating their general plans for the first year after high school (e.g., college, military, or work). While this would meet the state's requirement, it is not clear how beneficial students find this exercise.

Figure 3

How Much Do High Schools Use Educational Plans for Students?



Similar to portfolios and culminating projects, more work is needed to implement career pathways and plans. The Institute's study found a high degree of variation in how intensively high schools are implementing the state's expectation to provide students with educational pathways. Nearly one-third of high schools continue to offer the traditional options of a comprehensive high school as their pathways for students. Although two-thirds report relying on a career pathways model, only 11 percent of those are very actively trying multiple strategies to encourage students to become interested in their future, explore options, set goals, and actively take steps to accomplish their goals while in high school. The following case study example illustrates how one high school has incorporated career pathways as a focal point for reform.

Career Pathways at Pasco High School

Pasco High School, located in eastern Washington in the Tri-Cities, is the second largest high school in the state and serves a large minority and at-risk population. After the passage of the state education reform law in 1993, administrators and staff at Pasco immediately began work on how to improve student learning. They focused on two state learning goals: Goal 1 (reading, writing, communication, and math) and Goal 4 (linking education to the world of work). The Goal 1 committee created an integrated curriculum for 9th grade and developed a series of performance assessments. The Goal 4 committee developed a career pathways model to help students explore and prepare for their options after high school. The five pathways include the following:

- BAMM: Business and Marketing Management
- EARTH: Environmental, Agricultural Resources, Technology Horizons
- HANDS: Health and Services
- ACE: Arts, Communication, and Entertainment
- EMIT: Engineering, Manufacturing, Industrial Technologies

Since 1997, all 9th grade students have been offered five two-week course modules throughout the year that orient them to the five pathways. The modules include guest speakers, information about possible careers, field trips, and instruction geared around that pathway. Each module is taught in a different class in order to minimize the time spent outside the standard curriculum. For example, the EARTH module (taught in the science class) included speakers from Hanford and other local industries, a trip to a water treatment plant, and laboratory work on water purification. In the spring, students choose one of the pathways. Students receive extensive information about possible careers and guidance for selecting courses and electives that pertain to their pathway. Although they are free to change pathways at any time, most do not.

In addition, there is a special project for each grade level which students are encouraged to focus around their pathway:

- 10th grade students complete eight hours of service learning, including a civics unit presented in U.S. History, work with community mentors, and written reflection and classroom presentation of their experiences.
- 11th graders participate in "Enterprise Business Week," where all students spend a week at the local community college running a mock business in teams with other students and volunteers from the business community.
- Effective for the 2001 graduating class (the first class to complete each of the grade-level projects), seniors must complete a senior project that includes a research paper, a product, and a presentation to the community in the spring.

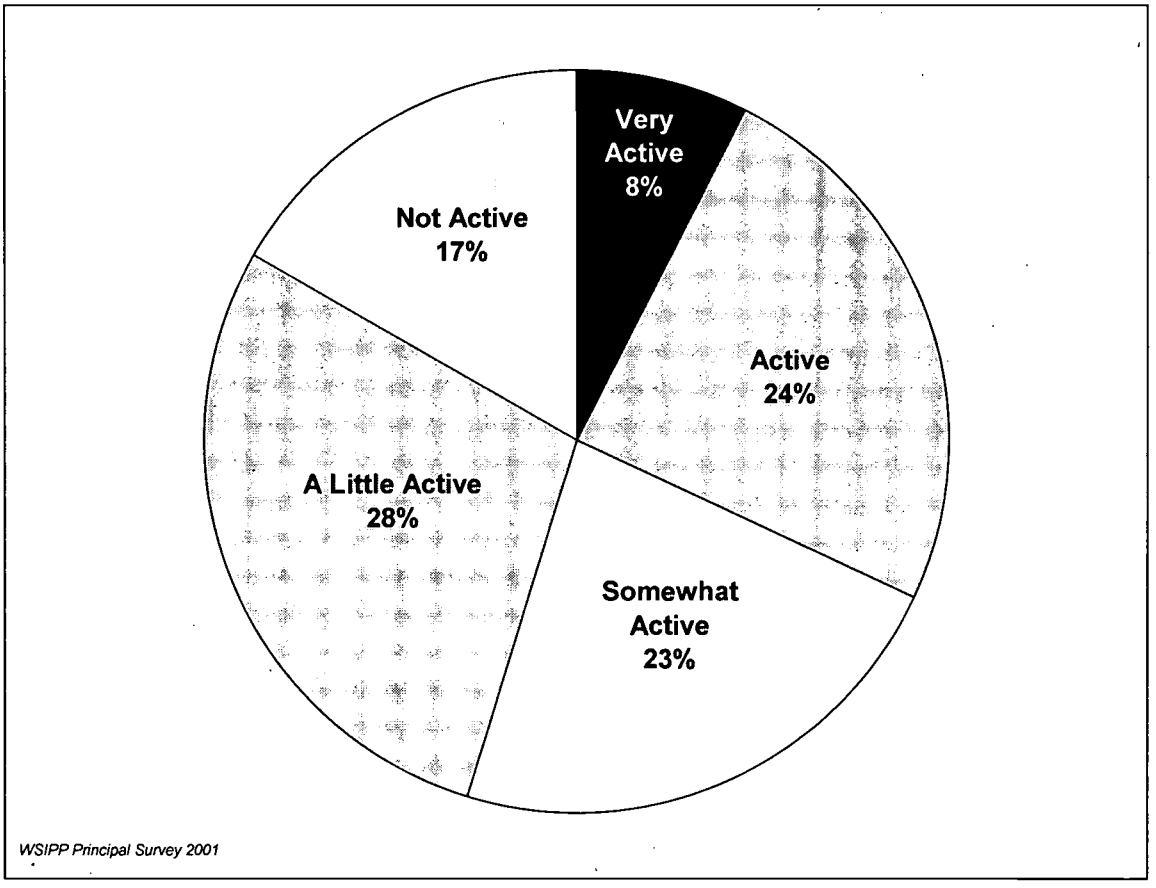
Each student keeps a Personal Career Planning Portfolio throughout high school containing such items as a personal mission statement, career interest inventories, papers for the various special projects, and samples of their best work. Included in the portfolio is a six-year education/career plan that students use with their advisor when scheduling classes. Parents are encouraged to be involved in the pathway model through informational meetings held for each project, volunteer opportunities, and communication in the school newsletter. Parents sign off on the student's pathway choice, portfolio, and education/career plan.

The Four P's: Lessons From the Case Studies

OSPI has nicknamed portfolios, culminating projects, educational pathways, and educational plans as "The Four P's" and is encouraging high schools to use all four strategies to engage students in learning and further implement the state's education reform in high school. As this study shows, although many high schools are experimenting with these strategies, the depth of implementation varies. According to participants in the Institute's case studies, possible reasons for limited depth include limited resources or commitment within the school and competing priorities.

Approximately one-third of Washington's high schools are actively or very actively implementing portfolios, projects, pathways, and plans simultaneously. The Institute combined the results of analyses presented above for each of the activities and created a composite score for each high school. The range of possible composite scores (4 through 18) was divided into five score groups, and high schools in each score group were assigned a description from "Very Active" to "Not Active." Figure 4 shows the results of this analysis.

Figure 4
How Actively Are High Schools Implementing Portfolios, Projects, Pathways, and Plans?



No significant relationship could be found among school size, geographic location, and level of implementation of the Four P's. Small, medium, and large high schools across the state were equally likely to appear at each level of implementation.

Case study participants believe portfolios and projects need to be integrated into students' overall education in order to be effective. In some schools, a project is a large paper written in a single class. In others, it represents a culmination of supporting activities, reports, research, and skill-building. Some students place copies of "A" papers in a portfolio file stored in a room next the library. Others are challenged to analyze examples of their work and write papers reflecting on their growth in knowledge and skills over time. Some schools provide students with a booklet explaining possible careers. Others develop a series of activities and projects that encourage students to explore their future educational and career plans.

Among the case study schools, those that had made portfolios, projects, and pathways an integral part of the high school learning experience were more confident of the benefits. In these schools, students, teachers, and parents had become convinced the activities were both important and valuable. They were less likely to question whether the activities were "just busywork." Students were more likely to find the activities useful when the purposes for doing them were reinforced in multiple ways throughout their high school years. Many of the case study schools believed requiring students to present their portfolios or projects to members of the community increased community awareness of students' accomplishments and was an important aspect of overall school accountability.

Achieving integration takes high levels of time, resources, and commitment. Schools that had achieved a high level of integration of portfolios, projects, or pathways expended a great deal of time and effort to accomplish their objectives. "Time" is frequently mentioned as a significant challenge as high schools implement education reform. It takes time for staff to discuss, plan, and develop changes to curriculum or other projects. It also takes time for staff and parents to agree on the goals and purposes of new strategies. Many strategies require additional oversight from teachers. Teachers are concerned about covering an increased amount of material in classes while also providing students opportunities to work on projects, portfolios, and career pathways. Finally, it takes time for staff and students to adjust to new expectations. It may take several years for changes to become ingrained in the school culture and for students to convince their younger peers that activities are worthwhile.

The need for time translates into a need for new or re-allocated resources and a commitment to invest those resources. Schools in the early stages of implementation spoke of the challenges they faced in building a consensus about the purpose of the activities. Even schools with experience voiced concerns about their ability to sustain such high levels of effort on an ongoing basis.

Educators and parents perceive that the demand to meet state learning standards could be in competition with efforts to engage students in learning. In Washington, as in other states, schools are expected to show improvement in student learning as measured by increased proportions of students meeting state learning standards (i.e., students passing state assessment tests). In high schools, the need to provide additional assistance for students who fail the high school assessment is a looming concern. Schools will

increasingly be held accountable for ensuring students successfully meet the standards, especially once the high school assessment is a graduation requirement. If the primary measure of school accountability is test scores, high schools will naturally respond to this pressure and focus on preparing students for the assessments. As high schools spend more time on remediation, competition for instructional resources could limit their ability to offer activities and options that engage students in learning. Paradoxically, activities such as portfolios, culminating projects, and career pathways, if well-implemented, are the very activities that might convince students of the importance and relevance of school even if they are struggling to meet higher academic standards.

Conclusion

Although the Institute could not objectively measure whether activities intended to engage students in learning have any effect, this study nevertheless provides some insights for schools, policymakers, and other researchers interested in high school reforms such as portfolios, projects, pathways, and plans.

Message to Schools: Intensity Seems to Matter. A common theme emerges from national research on career academies, integration of vocational and academic curricula, smaller learning communities, and School-to-Work transition. Positive research results tend to come from more intensively implemented strategies. Although there is limited research specific to the activities reviewed in this study, the experience of the case study schools suggests that this theme could apply here as well. Schools cannot expect that an activity such as a culminating project can achieve much beyond a traditional classroom assignment unless there are clear expectations, high student participation, and reinforcement throughout a student's high school experience. For schools, this requires a high level of commitment and consensus from staff and parents, as well as an investment in planning and integrating the activity into the high school curriculum.

Message to Policymakers: Direction and Support May Be Needed. State and national policymakers need to realize that simply making an activity a requirement does not guarantee it will achieve its objectives. On the one hand, a broad direction or requirement gives high schools discretion and flexibility to design activities that meet the needs and interests of their students, teachers, principal, and community. The downside is that lack of guidance can result in tremendous variation in levels of implementation from school to school. In Washington, policymakers are still debating what level of mandate, if any, is appropriate for culminating projects, pathways, and plans. Even if there is limited legislative interest in making the educational pathways requirement more specific or providing funds to support implementation, there is still an opportunity for OSPI to take a more active role in identifying and disseminating information about best practices or creating guidelines to assist high schools in making these activities worthwhile.

Policymakers will also have to grapple with finding a balance among potentially competing expectations. In Washington, the current focus is on improving student learning through standards, assessments, and accountability. But if high schools in particular are expected also to provide additional learning opportunities beyond those articulated in the state

standards and assessed by state tests, the accountability system must reflect this expectation.

Message to Researchers: Baseline Research Can Be Valid and Valuable for Educational Policy and Practice. Across the country, high schools are trying various strategies to respond to criticisms about low student engagement. Unfortunately, for many strategies, data on both outcomes and prevalence is limited. In order to make informed decisions on how best to influence high school reform and redesign, policymakers need information about current practice, barriers, and other issues. Relying solely on case studies can limit a study's appeal to a policymaking audience, although they are a rich source of perspectives and insights, particularly for practitioners. Statewide surveys provide baseline data that can be supplemented by interviews and observations to highlight issues for policymakers. The results of this study of Washington's public high schools should encourage further research that is both valid and valuable to decision-makers in education.

Endnotes

[1] By 2001, 23 states had adopted clear and specific standards at the high school level for English/language arts, mathematics, and science. "Quality Counts 2002," *Education Week* 21, no. 17 (January 10, 2002).

[2] In Washington, the State Board of Education establishes minimum statewide high school graduation requirements. Local school districts (of which there are 296) have the option to set more rigorous standards or additional expectations for students.

[3] The literal requirement is that the project demonstrate a student's preparation for meeting Goals 3 and 4 of the state's education reform. Goals 1 and 2 are associated with academic competencies (e.g., reading, mathematics, science, etc.). Goal 3 expects students to "[t]hink analytically, logically, and creatively, and integrate experience and knowledge to form reasoned judgments and solve problems." Goal 4: "Understand the importance of work and how performance, effort, and decisions directly affect future career and educational opportunities." RCW 28A.150.210.

[4] In 2008, Washington students will be required to earn a Certificate of Mastery in order to graduate from high school. The current expectation is that a certificate will be awarded to students who pass the reading, writing, communication, and mathematics portions of the Washington Assessment of Student Learning (WASL). Since this will be a high-stakes graduation test, the presumption is that alignment of curriculum, instruction, and assessment practices with the state learning standards must occur prior to that date.

[5] When schools are divided into five size ranges, there is a statistically significant difference between the proportion of responding schools and the total survey population because of the low number of respondents from very small schools. The difference is $p=.00135$, using a chi-square test ($p<0.05$).

[6] WSIPP Principal Survey 2001. Open-ended question about the use of portfolios and projects. Nearly 50 schools described changes being planned or underway.

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