Alaska Statewide Mentor Project

Alaska Department of Education & Early Development and the **University of Alaska**

Research Summary 2004-2008

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Abstract

The Alaska Statewide Mentor Project (ASMP) was created through a partnership with the Alaska Department of Education & Early Development and the University of Alaska system. ASMP provides quality mentoring to first- and second-year teachers (called "early career teachers" throughout) in order to meet two goals: increase teacher retention, and improve student achievement. This research summary describes quantitative data results available at this time, beginning with a description of the subgroup of teachers served by ASMP from the population of teachers in Alaska. Understanding this subgroup is important to interpret findings by ASMP. In comparison to historical state retention rates, ASMP has improved teacher retention among rural and urban early career teachers. Overall, ASMP holds an average 79% retention rate of all participating teachers, with the most recent year (FY08) increasing to 81% retention. For student achievement, preliminary results show students of participating teachers achieve gain scores similar to students of veteran teachers on standards based assessments, whereas students of early career teachers without mentoring tend to score much lower than those in veteran-teacher classrooms.

Quality Mentoring

The Alaska Statewide Mentor Project (ASMP) pairs early career teachers with veteran teachers (called "mentors" throughout) who are fully released from their teaching duties. The project is standards-driven, and employs a formative assessment system to help teachers become more effective in less time. For a complete description of the ASMP program model, visit the website at *www.alaskamentorproject.org*.

Population: Who is Served?

The Alaska Statewide Mentor Project (ASMP) provides mentors to teachers who are new to the profession and work primarily in core content classrooms. For project purposes, "new to the profession" includes teachers in their first and second year on the job, identified as "early career teachers" by ASMP. Before each new school year, districts can choose to invite ASMP into their schools by providing the names of qualifying early career teachers to the project.

With the exception of the initial 2004-2005 project year, ASMP has consistently served between 370 and 380 early career teachers each year with about 75% (±3%) located in rural school districts. Since the initial year, during which the project served 332 teachers and employed 22 mentors, funding has enabled ASMP to increase the number of mentors to 27, managing an average caseload of 14 early career teachers for every 1 mentor. ASMP mentors have worked in two-thirds of all 54 school districts and one-third of all 508 schools each year. In total, the project has served 45 districts and nearly 300 schools at least once since 2004. Year-by-year project numbers can be found in *Table 1*.
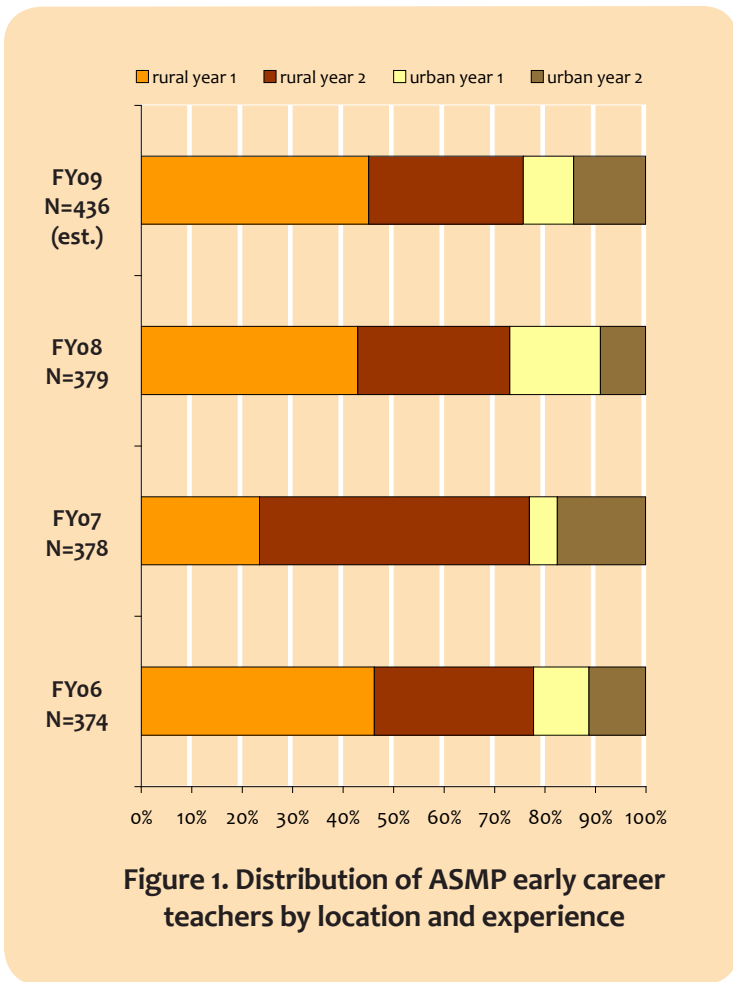
Project Year	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009 (est.)
Early Career Teachers	332	373	379	379	434
Schools	134	164	170	179	185
Districts	30	35	41	39	38
Mentors	22	24	27	28	27
Mentor-to-Teacher Caseload	1:15	1:16	1:14	1:14	1:16

Table 1. ASMP project numbers
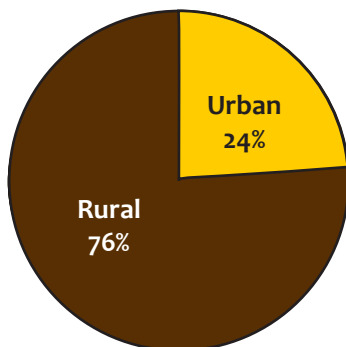
Distribution of Participating Teachers

Figure 1. Distribution of ASMP early career teachers by location and experience

Yearly fluctuation of early career teachers' location and experience affects overall teacher retention rates. *Figure 1* shows a low of 29% first-year teachers in FY07 to a high of 61% first-year teachers in FY08. This is due, in part, to the two-year cycle of the program. Typically the Alaska Statewide Mentor Project (ASMP) serves between 370 and 380 early career teachers each year, with about 75% (±3%) located in rural school districts (*Figure 1*). In contrast, the state employs nearly 7000 teachers each year across all levels of experience, with 70% of them in urban school districts. Of those 7000, about 10% are first-year teachers.

Given the criteria for participation, ASMP works with only 5% of the teachers in the state—less than 2% of teachers in urban districts, and about 15% in rural districts. Of first-year teachers, ASMP serves about 10% in urban districts and almost 55% in rural districts (*Figure 2*). The focus on rural school districts is intentional because historically these districts have higher teacher turnover rates and lower student achievement scores. Current resources allow us to serve teachers in special education and the core content areas: Language Arts, Math, Science, and Social Studies. This emphasis also aligns with the goal of linking mentoring to student achievement. One long-term hope of ASMP is to work with all new teachers in the state, including teachers in all content areas and teachers who are new to Alaska regardless of teaching experience.

Distribution of All ASMP Teachers Average FY05–FY08

Early career teachers not mentored by ASMP include those in non-participating districts, non-core content areas, those who were not reported by districts, and those who can not be covered due to limitation of resources.

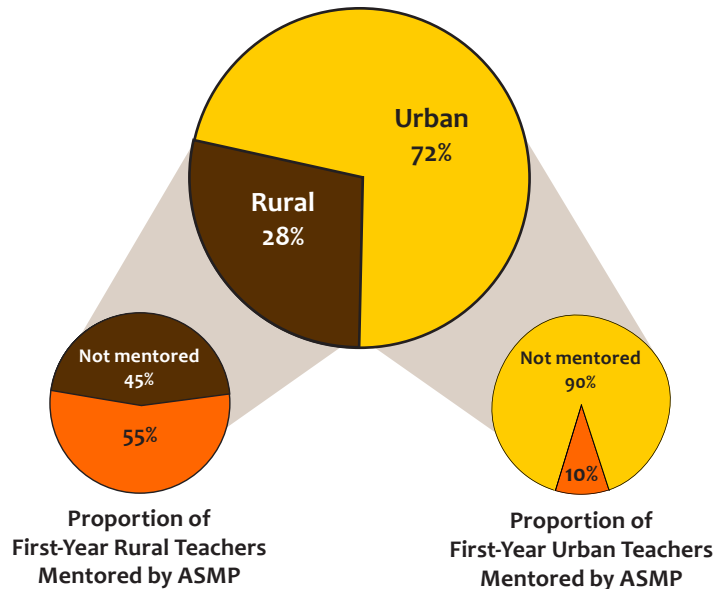## Distribution of All Alaska Teachers Average FY05–FY08

Proportion of First-Year Rural Teachers Mentored by ASMP

Proportion of First-Year Urban Teachers Mentored by ASMP

Figure 2. Comparison of ASMP teachers to all Alaska teachers by location

Linking Mentoring of Teachers to Student Achievement:
Results from an Exploratory Study

Researching the link between mentoring of teachers to student achievement is challenging due in part to the separation of intervention and outcome measures, and to the multitude of variables and challenges inherent in Alaskan education. Variables such as sample size, assessments, data collection, curriculum, and delivery methods make such research difficult. Through our research, the Alaska Statewide Mentor Project (ASMP) has observed the following:

- Early career teachers working with mentors in ASMP cover the full range of K-12 classrooms, teach in core content areas and special education, and are located in rural and urban school districts with schools that range in size from 20 students in K–12 to over 400 students in K–5 or over 1200 students in 9–12.
- The state assesses students in grades 3–12 using the Standards Based Assessments (SBAs). Change in scores from one year to the next provides grounding for each student; with about 30% of ASMP teachers working in grades K–3, however, the project research team has yet to develop a means to include this important subgroup.
- A persistent achievement gap exists between rural and urban students that includes confounding factors such as ethnicity, language diversity, and socio-economic status.
- For each grade level, the cut-off scale score of 300 is used to determine which students are considered proficient. However, the remaining cut-off scale scores (far below proficient or advanced) are not the same, nor are the equations for determining scale score from raw score. This means that a loss from one year to the next does not necessarily translate into less knowledge for the student. In fact, we do not know what gain in score from one year to the next would signify an increase in knowledge.

A small exploratory study linking mentoring to student achievement was conducted using a controlled quasi-experimental design between ASMP (mentored early career) teachers and non-mentored veteran teachers of fourth- and fifth-grade students in urban districts. Urban districts were selected for this study due to the larger pool of mentored and non-mentored teachers within each school. Using this small subpopulation of teachers eliminated many of the challenges described earlier. The unit of analysis was gain in scale score on SBAs in Reading, Writing and Math from FY07 to FY08. The study included 7 early career teachers (1-2 years of experience, averaging 1.16 years). The comparison group consisted of 4 veteran teachers (4-8 years of experience, averaging 6.03 years) from similar schools and districts as the ASMP teachers. There are two basic approaches to analyzing the data, at the student level or at the teacher level. Preliminary teacher-level results, the more conservative approach, show students taught by mentored early career teachers achieving gain scores on SBAs similar to students taught by veteran teachers.

Using an analysis of covariance* (ANCOVA) with 4 control teachers (83 students) and 7 treatment teachers (115 students), students in classrooms of veteran teachers on average gained 9.0 points in Reading compared to 5.3 points in ASMP teachers'

Classrooms' Average Scores on Standards Based Assessments	Gains in Reading	Gains in Writing	Gains in Math
Veteran Teachers	9.0	-1.0	-5.5
ASMP Teachers *(mentored early career)*	5.3	2.1	-6.8
ANCOVA results			
p-value	0.910	0.143	0.959
R^2	0.212	0.392	0.113

Table 2. Results from ASMP exploratory study

classes (Table 2). Losses in Writing scores averaged about 1.0 point for students of veteran teachers whereas those of mentored early career teachers gained 2.1 points. Gains in Math scores averaged a loss of 5.5 points for students of veteran teachers, and a loss of 6.8 points for students of ASMP teachers. By comparison, students of early career teachers without mentoring score much lower than their veteran counterparts nationally (Grissmer, Flanagan et al. 2002). Data from early career teachers without mentoring were not available for this study due to low sample size.

In each case, the results are not statistically significant (all p-values >0.05) meaning that there is no difference in average classroom gain scores between mentored early career teachers and veteran teachers. The models produced results with R^2 values of 0.212, 0.392, and 0.113 respectively, showing that other variables beyond participation in ASMP and years of experience are needed to help describe the variation in data. Though results are promising to link mentoring of teachers to student achievement, they are limited due to the small sample size of the study. Plans for large-scale data collection are underway to analyze gains in scores of students in grades 4 through 12, where variables such as student demographics (gender, ethnicity, age), teacher demographics (university, years of experience), and classroom demographics (location, size, teacher) will be added to disentangle the variation among the gain in SBA scores. A hierarchical linear modeling approach will be used with the larger data set, combining student-level and teacher-level analyses.

* The ANCOVA procedure uses a statistical model that compares the variation in the scores of each group (mentored/non-mentored) to the variation expected by chance. Adding a covariate allows the model to remove any confusing effects of pre-existing individual differences among students. In all three models, the previous classroom average SBA score was used as a covariate to account for the differences already existing in student scores.

Researching Teacher Retention

The Alaska Statewide Mentor Project (ASMP) provides quality mentoring to first- and second-year teachers in order to meet two goals: increase teacher retention, and improve student achievement. Since 2004, research indicates an average retention rate of 79% for all participating teachers, rising to 81% in FY08. *Figure 3* compares two years of retention rates for first-year teachers in rural districts statewide with those who received mentoring from ASMP. Similarly, *Figure 4* compares first-year teachers in urban school districts. Although statewide data for FY08 is unavailable, ASMP produced retention rates of 80% rural first-year and 93% urban first-year, both well above the statewide values shown in *Figures 3* and *4*. When compared to values published in the latest statewide results*****, ASMP has proven successful in retaining a higher proportion of teachers among the small subpopulation served by the project.

Retention in Special Education

State data indicates that 41% of new special education teachers leave the Alaska school system after four years (Hill & Hirshberg, 2008). Through grant funding, the Alaska Statewide Mentor Project (ASMP) has been able to increase focus on mentoring special education teachers by pairing mentors with special education certifications to work specifically with early career special education teachers. Working with a subsample of about a third of all new special education teachers, ASMP has retained over 80% each year. *Table 3* shows the overall values.

Project Year	FY06	FY07	FY08
Special Education ASMP teachers	32	30	28
Retained in Alaska	26	26	24
Percent Retained	81%	87%	86%

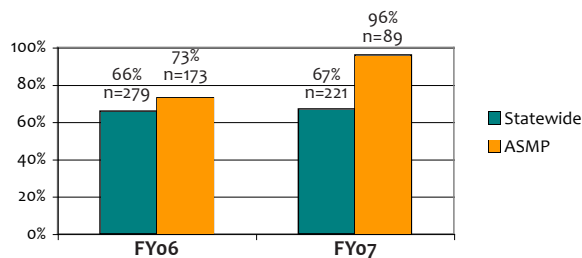**Table 3. ASMP early career special education numbers**

Figure 3. Compared retention rates of rural first-year teachers in ASMP and all rural first-year teachers statewide

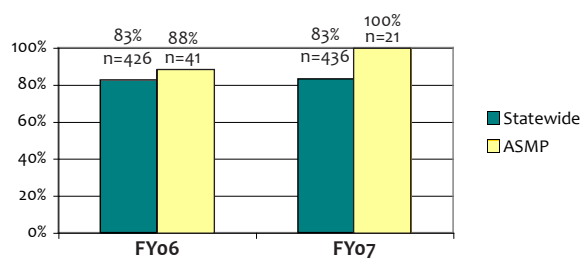**Figure 4. Compared retention rates of urban first-year teachers in ASMP and all urban first-year teachers statewide**

*As reported by Hill and Hirshberg, ISER Research Summary No. 69, 2008.

Summary

- *Goal 1: Increasing Teacher Retention.* Data indicate that the Alaska Statewide Mentor Project (ASMP) has increased teacher retention for both rural and urban early career teachers compared to statewide historical values. In FY10, ASMP will begin to follow up with teachers participating in the initial project year to identify the percentage still teaching in Alaska after 5 years and determine the long-term retention value.

- *Goal 2: Improving Student Achievement.* ASMP has promising evidence linking mentoring of teachers to student achievement through an analysis of improved gain scores on standards based tests in Reading, Writing, and Math. Results from this small, exploratory, quasi-experimental study on student achievement create a foundation for a large-scale study across grades 4–12 in progress this year.

Understanding the subpopulation involved in ASMP situates the results of our research in the context of the broader statewide picture. As ASMP continues to research these goals, we will also begin to explore the impact mentors have when they leave the project and return to their schools. Knowing that preliminary results on improved student achievement are promising, it is our hope they can be replicated on a wider scale by involving a larger pool of mentored and non-mentored teachers. ASMP hopes to expand our work with early career teachers in every content area who—because of our limited resources—are not served by the project currently. Were every new teacher across Alaska to receive mentoring early in their careers, imagine the impact on teacher retention and student achievement 20 years from today.

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