

---

# education policy analysis archives

A peer-reviewed, independent,  
open access, multilingual journal



Arizona State University

---

Volume 20 Number 27

September 10<sup>th</sup>, 2012

ISSN 1068-2341

---

## Recruiting expert teachers into high-needs schools: Leadership, money, and colleagues

*Audrey Amrein-Beardsley*  
Arizona State University

**Citation:** Amrein-Beardsley, A. (2012). Recruiting expert teachers into high-needs schools: Leadership, money, and colleagues. *Education Policy Analysis Archives*, 20 (27). Retrieved [date], from <http://epaa.asu.edu/ojs/article/view/941>

**Abstract:** Teacher quality experts are urging policymakers to identify and target expert teachers and entice them to teach in high-needs schools. To understand what this might take, expert teachers in Arizona were surveyed to understand their job-related preferences to inform future recruitment policies. Findings should inform others about the important factors educational policymakers might consider when thinking about recruiting expert teachers into high-needs schools. These factors include the quality of the principal; salary, bonuses, and benefits; and the degree to which expert teachers can work in multiple roles to enhance student learning.

**Keywords:** teacher recruitment; urban schools; teacher attitudes; educational policy.

### **Reclutamiento de docentes expertos en escuelas urbanas con necesidades educativas: liderazgo, dinero, y colegas.**

**Resumen:** Los expertos en calidad docente están instando a los responsables políticos para identificar y seleccionar profesores especializados (*experts*) para atraerlos a enseñar en escuelas con necesidades educativas. Para entender lo que esto podría significar, profesores expertos en Arizona fueron entrevistados para conocer sus preferencias relacionadas con el trabajo con el fin de informar políticas de contratación en el futuro. Los resultados proporcionan una razón para considerar los factores que las autoridades en el ámbito de la política educativa deberían tener en cuenta cuando se piensa en la contratación de profesores especializados en escuelas con necesidades educativas. Estos factores incluyen la calidad de los gestores, los sueldos,

bonificaciones y beneficios y en qué medida estos profesores podrían trabajar en diferentes roles para mejorar el aprendizaje de los estudiantes.

**Palabras clave:** la contratación de docentes, escuelas urbanas; actitudes de los docentes; política educativa.

### **Recrutando professores especializados em escolas urbanas com altas necessidades educacionais: Liderança, dinheiro e colegas.**

**Resumo:** Os especialistas em qualidade docente estão incitando os formuladores de políticas para identificar e selecionar docentes especializados (*experts*) para atraí-los para ensinar em escolas com altas necessidades educacionais. Para entender o que isso poderia significar, especialistas do corpo docente no Arizona foram entrevistados para saber suas preferências relacionadas com o trabalho nos sentido de informar as políticas de recrutamento futuras. Os resultados fornecem razões para considerar os fatores que autoridades na área da política educacional deveriam considerar ao pensar sobre a contratação de professores especializados nas escolas com altas necessidades educacionais. Esses fatores incluem a qualidade dos gestores, salários, bônus e benefícios e em que medida estes professores poderiam trabalhar em diferente papéis para melhorar a aprendizagem dos alunos.

**Palavras-chave:** recrutamento de docentes; escolas urbanas; atitudes dos professores; política de educação.

## **Introduction**

Policymakers agree that in order to increase student achievement, the quality of the teacher placed into every classroom is of critical importance, but they do not fully understand how to go about placing a highly qualified teacher into every core classroom as mandated in No Child Left Behind (NCLB, 2002). This is also at focus within the current revision of the Elementary and Secondary Education Act and the 2009 economic stimulus law (Sawchuck, 2010). In addition, because educational leaders are most focused on increasing student achievement in America's highest-needs schools, policymakers are especially pressed by the challenge to place the most qualified, or expert teachers, into high-needs schools given the extent to which these teachers have evidenced that they are the most likely to increase, or add value, to student achievement (Bond, Smith, Baker & Hattie, 2000; Cavaluzzo, 2004; Fisher & Dickenson, 2005; Goldhaber & Anthony, 2004; Goldhaber, Perry & Anthony, 2003; Hakel, Koenig, & Elliott, 2008; Laczko-Kerr & Berliner, 2002; Smith, Gordon, Colby & Wang, 2005; Stronge, Ward, Tucker, Hindman, McColsky, & Howard, 2007).

High-needs schools, defined in NCLB, are schools that are (a) located within urban or rural areas in which more than 30% of the student population comes from families with income levels below the poverty line or (b) within the top 25% of a state's schools as ranked by the number of unfilled teaching positions or (c) located within urban or rural areas with relatively high percentages of teachers who are not certified or licensed, who teach out of field, or teach in schools with high teacher turnover rates (Public Education Network, 2011). In short, high-needs schools are most difficult to staff, and very few incentives currently exist to attract expert teachers, or teachers in general to teach in these settings (Berry, 2008; Berry & Ferriter, 2006; Darling-Hammond, 2007; Dessoiff, 2010).

Expert teachers, defined empirically by David Berliner (2001), are teachers who usually develop their expertise within three-to-five years of teaching. They are relatively more in control of their own learning environments; engage in more deliberate practice, pedagogy, and instruction; are more self-reflective and self-motivated, and often defy the environments in which they work.

Quantitatively, many teachers have also evidenced themselves as experts via analyses of their students' relative standardized test scores and test score gains over time (Bond et al., 2000; Goldhaber & Anthony, 2004; Hakel et al., 2008; Smith et al., 2005; Stronge et al., 2007), particularly in high-needs schools (Cavaluzzo, 2004; Fisher & Dickenson, 2005; Goldhaber et al., 2003; Laczko-Kerr & Berliner, 2002). While some argue that expert teachers can also be novice teachers, for example if they graduate in the "top third" of their class (Auguste, Kihn, & Miller, 2010), these teachers are not considered expert teachers here as they do not have comparable years of teaching experience.

Regardless, finding and identifying expert teachers is still difficult as these teachers cannot all be reliably and validly labeled as such. The National Board for Professional Teaching Standards (NBPTS) has helped to exact such classifications through its National Board Certification process, and National Board Certified Teachers (NBCTs) are currently recognized as expert teachers within NCLB, but being Board Certified is not the only means by which teachers can or should be classified as expert teachers. Nonetheless, policymakers are being encouraged to develop incentive programs that target expert teachers and encourage them to teach in high-needs schools. This is especially important as the U.S. has come under recent scrutiny for not taking a more strategic and proactive approach to increase the proportion of America's best and most talented teaching in high-needs schools (Auguste et al., 2010). Even with significant budget and economic issues looming (Dessoiff, 2010), and given the fact that such initiatives are far from inexpensive, school districts are still trying to offer incentives in efforts to recruit and hire expert teachers in these schools accordingly (Sawchuck, 2009).

It was the researcher's intent in this study to examine the preferences of such a unique subset of expert teachers, defined locally, to help determine what factors this unique subset of teachers might value if ever to take a teaching position in a high-needs school. Ultimately, the purpose of this study was to inform educational policymakers' thinking about recruiting expert teachers into the schools that need them most.

## **Teacher Retention and Recruitment**

Besides simply burning out (Pucella, 2011), teachers in general most often cite social, demographic, and economic reasons for leaving the schools in which they teach. They identify low salaries and the organization's working conditions (e.g., a lack of support, lack of resources, high teacher to student ratios, student discipline issues) as most often shaping their decisions to leave their schools, or the profession. Factors outside of the control of schools include retirement, familial circumstances (e.g., a forced move due to a spouse's job change, pregnancy, child rearing), and health issues (Berry & Ferriter, 2006; Glennie, Coble, & Allen, 2004; Gritz & Theobald, 1996; Hanushek & Rivkin, 2003; Ingersoll, 2002; Ingersoll & Henry, 2010; Murnane & Olsen, 1989; Tye & O'Brien, 2002).

In rural areas, the reasons teachers give for leaving their positions include low salaries and social isolation given rural areas' geographic seclusion. Other reasons cited include inadequate housing, poor community demographics, and teacher load in that rural teachers are often required to earn multiple teaching certificates because they are required to teach multiple subjects or grade levels within one site (AEL, 2003; Dessoiff, 2010; Grissmer, Flanagan, Kawata, & Williamson, 2000; Schwartzbeck, 2003). Tighter senses of community seem to be a main factor when teachers in rural schools decide to stay, however (Barley & Beesley, 2007), as is the case with teachers who stay teaching in parochial and civic-oriented schools (Tamir, 2010; Tamir & Magidin de Kramer, 2011).

In high-needs schools specifically, teachers report that they are least satisfied with school facilities, leadership, professional development opportunities, and the extent to which they are involved in decision-making, supported as risk-takers, and recognized and respected as professionals (Berry & Ferriter, 2006; Buckley, Schneider, & Shang, 2005; Darling-Hammond, 2007; Tamir, 2010). In addition, teachers who vacated their positions in high-needs schools note that they would have hypothetically stayed if the schools offered them: Better salaries, smaller class sizes, stronger student discipline, more parental involvement, more faculty authority, more opportunities for advancement, less paperwork, better classroom resources, higher standards, tuition reimbursement, mentors, and merit pay, in that order (Ingersoll, 2002; see also Ingersoll & Henry, 2010).

Researchers have examined these issues using more traditional methods of inquiry and have also found that teacher attrition is most significantly related to students' familial incomes, races, the degree to which the race of the teacher matches those of his/her students, and students' historical rates of substandard student achievement. These factors seem to matter even more than teacher salaries, although salary is still a significant reason teachers seem to leave the schools in which they teach (Clotfelter, Ladd, & Vigdor, 2010; Goldhaber & Anthony, 2004; Gomez & Rodriguez, 2011; Hanushek, Kain & Rivkin, 1999; Hanushek & Rivkin, 2003; Lankford, Loeb, & Wyckoff, 2002). A recent meta-analysis conducted by Borman and Dowling (2008) supported these assertions as well, evidencing across empirical studies that organizational characteristics, student resources, and student body demographics are still key.

Yet regardless of the reasons teachers leave high-needs schools, those who leave are most likely to be replaced by the most inexperienced teachers: usually state-certified teachers who are new, long-term substitutes, or people with bachelor's degrees who are permitted to teach with alternative teaching certificates. This makes matters worse, especially if novice teachers are alienated and work in non-integrative ways or within caustic cultures (Baker-Doyle, 2010; Kardos & Johnson, 2007; Rinke, 2011). These teachers then become responsible for increasing the historically substandard levels of student achievement typically found in high-needs schools (Berry, 2004, 2008; Berry & Ferriter, 2006; Ingersoll, 2002; Ingersoll & Henry, 2010; Lankford et al., 2002; Wayne, 2000).

And because district personnel often promote low value-added teachers' transfers into high-needs schools and rarely fire ineffective teachers, although this is currently changing given the current federal push to terminate teachers who do not "add value" to their students' learning (Auguste et al., 2010; Bellwether Education Partners, 2011; Capitol Hill Briefing, 2011; Cody, McFarland, Moore, & Preston, 2010; Harris, 2011), under-qualified teachers are largely overrepresented in high-needs areas (Boyd, Lankford, Loeb, Ronfeldt, & Wyckoff, 2011). This perpetuates the substandard levels of teacher quality and student achievement consistently found in hard-to-staff settings (Darling-Hammond, 1995).

With that said, the more qualified the teacher, the more likely (s)he is to add value to student learning (Bond et al., 2000; Cavaluzzo, 2004; Fisher & Dickenson, 2005; Goldhaber & Anthony, 2004; Goldhaber et al., 2003; Hakel et al., 2008; Laczko-Kerr & Berliner, 2002; Smith et al., 2005; Stronge et al., 2007). This makes it all the more important that expert teachers be retained and/or targeted for recruitment. This should not occur just in predominantly suburban, more affluent schools and districts that can afford them most (Boyd et al., 2011; Goldhaber & Hansen, 2009; Humphrey, Koppich, & Hough, 2005; Knapp, 1998; Nye, Konstantopoulos, & Hedges, 2004). In order to grow and promote more effective strategies for recruiting and retaining expert teachers into high-needs schools, we must understand what it will take to get expert teachers there in the first place, and to succeed and stay once there.

## **Purpose of the Study**

In efforts to understand what it might take to retain and recruit expert teachers into high-needs schools, the researcher of this study conducted a survey of Arizona's expert teachers to understand this groups' job-related preferences and the factors which would be of greatest to least importance should they ever decide to teach in a high-needs school. These teachers' job-related preferences matter when it comes to thinking about teacher quality and the recruitment of expert teachers into such schools. Again, expert teachers are largely underrepresented in high-needs areas (Darling-Hammond, 2007; Goldhaber et al., 2003; Humphrey et al., 2005; Ingersoll & Henry, 2010; Sawchuck, 2010), so what they have to say about their job-related preferences, particularly if they were to consider teaching in a high-needs school (or one different than the one in which they currently taught if applicable), has considerable policy implications (Darling-Hammond, 2007; Dessoiff, 2010; Berry, 2008; Berry & Ferriter, 2006).

### **State Context**

Arizona, the 6th largest state in terms of area, the 18th largest state in terms of total population, and the 8th most urban state (Morrison Institute, 2005) is rooted in a history of conservative politics. The Republican Party has unwaveringly dominated state politics since the early 1960s. Social programs, including education, have not been at the forefront of the state's reform efforts for years. That said, the majority of its citizens believe Arizona is among the worst states in the nation in terms of education and the welfare of its children (Morrison Institute, 2005).

About 30% of Arizona's student population is from a Latino(a) background with about an equal percent of children who speak English as their second language, ranking Arizona third for having the most non-native English speakers (Kids Count, 2007). Arizona has the largest population of Native American students of any state (5.5%) with the remainder of students balanced out at 44.1% white and 41.4% Latino/a (National Center for Education Statistics (NCES), 2011). Arizona ranks second to last nationally in adjusted per pupil expenditures (Education Week, 2008), and it has the 11th highest poverty rate in the country (Annie E. Casey Foundation, 2010) with 46.6% of its students eligible for free-and-reduced lunch (NCES, 2011). Arizona's public school students consistently rank among the worst in the nation (bottom quintile) across grade levels and subject areas on the National Assessment of Educational Progress (NAEP) (NCES, 2011). And because schools are funded locally and Arizona does not have a uniform salary schedule, this in itself contributes to the systematic sorting of expert and other highly qualified teachers into Arizona's lower- versus higher-needs urban, rural, and reservation school systems (Markel & Hall, 2004; Morrison Institute, 2003; see also Clotfelter et al., 2010).

### **Study Sample**

With the help of some of Arizona's top officials on teacher quality - educational leaders affiliated with the local teachers' union, one of the largest, charitable foundations in the state that recognizes expert teachers, and the NBPTS Board Certification process - a list of Arizona's expert teachers was developed. Specifically, this list included teachers in the state who successfully completed the NBPTS Certification process and were NBCTs. NBCTs undergo a rigorous process to evidence that they indeed are among the nation's best teachers. Additionally, these teachers have nearly unequivocally proven themselves to be effective in terms of increasing student learning and achievement (Amrein-Beardsley, 2008; Bond et al., 2000; Goldhaber & Anthony, 2004; Hakel et al., 2008; Smith et al., 2005; Stronge et al., 2007), particularly in high-needs schools (Cavaluzzo, 2004; Fisher & Dickenson, 2005; Goldhaber et al., 2003; Laczko-Kerr & Berliner, 2002).

Also included were teachers who were identified and recognized as expert teachers by the largest, charitable educational foundation in the state. These teachers were recognized as they, inline with David Berliner's (2001) empirical definition of expertise, defied the environments in which they taught. They were considered anomalies in their schools, achieving extraordinary success promoting student learning and achievement in high-needs settings.

Teachers who were awarded an Arizona Teacher or Ambassador of the Year honor were also invited to participate. Historically within the state, these honors are the most prestigious that focus public attention and accolades on excellence in teaching. However, while teachers given these awards may encapsulate what it means to be an expert teacher better than the narrow definition being used now more than ever (i.e., using test scores and "value-added" measures to define teacher expertise; Amrein-Beardsley, 2008; Capitol Hill Briefing, 2011; Harris, 2011), the inclusion of these teachers was most questionable given the traditionally subjective nature by which these teachers are chosen for such awards.

The final list included 207 expert teachers. The Arizona Department of Education (ADE) provided personnel records on each of the final 207 expert teacher participants. This included background and demographic information about each participant, the name of the school and district in which the teacher taught if still teaching, and contact information including current and/or enduring email addresses.

The 207 expert teachers were sent one email inviting them to participate in this survey research study. In the email the purpose of the study, why study participants were selected to participate, and reasons why they should participate were detailed. Potential participants were also provided with the link to the online survey instrument and directions on how to complete the questionnaire. Teachers were given two weeks to participate and were sent one email reminder requesting that non-respondents complete the questionnaire before the survey closed. The set of expert teachers were invited to participate regardless of whether they currently taught or had ever taught in a high-needs school. If they currently taught in a high-needs school, they were asked to respond to survey questions if they were ever to consider teaching in another high-needs school.

### **Sample Representation**

Of the 207 expert teachers who were invited to participate, 89 (43.0%) participated. Because this was a relatively low response rate, the researcher acknowledged that it was possible that the teachers who participated in this study were distinctly different than the teachers who declined. Because this issue threatened the validity of the findings, analyses examining whether the sample of participants represented the greater population of expert teachers from which the sample came were conducted to eliminate biasing elements (e.g., teacher experience). Data collected initially via the ADE and additional school data, including school demographics, indicators of student poverty, standardized test scores and proficiency levels, etc. found on the ADE website (ADE, 2008) were used to conduct inter-group, comparative analyses. Specifically, all background variables that were available for both the sample and population groups were examined and tested for homogeneity, and statistics testing for differences between both groups were computed. On each background variable (e.g., gender) whether sample participants were uniquely different than the greater population of expert teachers from which the sample came were examined for likeness.

Pearson chi-square (see Tables 1-3) and ANOVA statistics (see Tables 4-7) verified that the sample of respondents did not differ significantly from the sample of participants who declined to participate in the study ( $p < 0.05$ ). No inordinate number of participants from the three organizations acknowledging expert teachers participated (see Table 1); teacher participants were representative of the larger population by gender (see Table 2); teacher participants taught in the

same types of schools by achievement category (see Table 3) and the percent of students meeting or exceeding state standards (see Table 4); teacher participants taught in schools with colleagues with similar years of teaching experience (see Table 5); teacher participants taught in schools with students from similar racial backgrounds (see Table 6), and teacher participants taught in schools with similar student-to-teacher ratios, percentages of students on free-and-reduced lunch programs, and students who were English Language Learners (ELLs) (see Table 7).

Table 1  
Pearson chi square statistics – Expert teacher distinction

	NBCT	Foundation	AEA	Total
Teacher Participated	34.8% (N = 72)	4.3% (N = 9)	3.9% (N = 8)	43.0% (N = 89)
Did Not Participate	44.9% (N = 93)	8.2% (N = 17)	3.9% (N = 8)	57.0% (N = 118)
Total	79.7% (N = 165)	12.6% (N = 26)	7.7% (N = 16)	100.0% (N = 207)

$\chi^2(2, N = 207) = 3.63, p = 0.163$

Table 2  
Pearson chi square statistics - Gender

	Female	Male	Total
Teacher Participated	35.3% (N = 73)	7.7% (N = 16)	43.0% (N = 89)
Did Not Participate	48.3% (N = 100)	8.7% (N = 18)	57.0% (N = 118)
Total	83.6% (N = 173)	16.4% (N = 34)	100.0% (N = 207)

$\chi^2(1, N = 207) = 0.01, p = 0.536$

Table 3  
Pearson chi square statistics - Schools by state achievement profile

	Highly Excell.	Highly Perform.	Perform. Plus	Perform. Perform.	Under Perform.	Failing	Total
Teacher Participated	16.2% (N = 23)	8.5% (N = 12)	12.0% (N = 17)	4.9% (N = 7)	0% (N = 0)	0% (N = 0)	41.5% (N = 59)
Did Not Participate	19.7% (N = 28)	12.0% (N = 17)	16.9% (N = 24)	8.5% (N = 12)	1.4% (N = 2)	0% (N = 0)	58.5% (N = 83)
Total	35.9% (N = 51)	20.4% (N = 29)	28.9% (N = 41)	15.5% (N = 19)	1.4% (N = 2)	0% (N = 0)	100.0% (N = 142) <sup>1</sup>

$\chi^2(4, N = 142) = 0.83, p = 0.934$

<sup>1</sup> N=142 is reported hereafter because 68.6% (142/207) of Arizona’s expert teachers still taught in the classroom. Because these participants were still teachers, only their school level data could be used for school-level data analyses.

Table 4  
ANOVA statistics - Schools by percent of students meeting or exceeding state standards on grade 3, 5, 8 and 10 state tests

	Grade 3	Grade 5	Grade 8	Grade 10
Teacher Participated N = 59	M = 79.4% SD = 11.2	M = 75.7% SD = 13.3	M = 72.8% SD = 11.1	M = 81.9% SD = 6.5
Did Not Participate N = 83	M = 77.5% SD = 14.1	M = 73.8% SD = 13.4	M = 69.0% SD = 12.4	M = 77.4% SD = 14.7
df =1,	F = 0.450 p = 0.504	F = 0.498 p = 0.482	F = 0.543 p = 0.467	F = 4.088 p = 0.054

Table 5  
ANOVA statistics – Schools by percent of colleagues by years of teaching experience

	3 or Less Years	4 to 6 Years	7 to 9 Years	More than 10 Years
Teacher Participated N = 59	M = 22.3% SD = 12.2	M = 16.8% SD = 6.9	M = 13.7% SD = 8.4	M = 47.2% SD = 14.1
Did Not Participate N = 83	M = 21.5% SD = 10.8	M = 17.5% SD = 6.8	M = 14.5% SD = 8.9	M = 46.5% SD = 14.7
df =1,	F = 0.122 p = 0.727	F = 0.404 p = 0.526	F = 0.188 p = 0.665	F = 0.094 p = 0.760

Table 6  
ANOVA statistics - Schools by percent of students by race

	White (non- Hispanic)	Hispanic / Latino(a)	Asian / Pacific Islander	African American / Black	American Indian / Alaskan Native
Teacher Participated N = 59	M = 50.1% SD = 29.4	M = 38.3% SD = 27.2	M = 3.0% SD = 1.9	M = 5.4% SD = 4.2	M = 3.2% SD = 4.9
Did Not Participate N = 83	M = 47.1% SD = 29.5	M = 39.9% SD = 28.6	M = 3.4% SD = 2.7	M = 6.6% SD = 4.9	M = 3.0% SD = 3.4
df =1,	F = 4.679 p = 0.032	F = 3.938 p = 0.049	F = 0.735 p = 0.393	F = 2.312 p = 0.131	F = 0.058 p = 0.810

Table 7  
*ANOVA statistics - Schools by other student demographic variables*

	Student to teacher ratio	Students eligible for free/reduced lunches	ELL Students
Teacher Participated N = 59	M = 21.8% SD = 3.1	M = 49.2% SD = 31.0	M = 17.3% SD = 15.8
Did Not Participate N = 83	M = 21.5% SD = 3.7	M = 53.8% SD = 31.3	M = 19.2% SD = 15.3
df = 1,	F = 0.247 p = 0.620	F = 3.681 p = 0.057	F = 2.018 p = 0.158

What was limiting, however, was that researcher could not effectively capture or control for the teacher participants’ other attitudinal or affective variables using the traditional data sources and demographic questions used in this, and most other quantitative studies. As such, assuming sample to population similarities could still be problematic and misleading.

For example, even though teacher participants did not teach in schools which looked different academically or demographically from the schools in which the larger population of expert teachers taught, whether participants differed on things like social consciousness or political activism could not be numerically or otherwise captured or controlled. Participants likely differed from non-participants on such variables given the fact that they self-selected to participate in the study. Especially because the purpose of this study was to examine expert teachers’ professional preferences, personal opinions, attitudes, and other affective measures, these variables must be considered when assessing the validity of the forthcoming findings. In addition, data to examine how Arizona’s expert teachers compare to expert teachers across the nation were unavailable, so whether the results of this study generalize beyond Arizona’s borders is unknown. Drawing generalizations must be done with caution and within the context of this study and its sample limitations.

### Conceptual Framework and Survey Instrument Development

The researcher developed a web survey questionnaire using the empirical findings and theoretical concepts from the general literature on teacher retention and recruitment. These factors provided the foundational knowledge needed to develop a valid and reliable survey instrument for the purposes of this study.

While reviewing the literature, important job-related factors were noted and tallied appropriately. For example, the factor “salary” was found to be a chief job-related factor mentioned by teachers as a reason why they left a teaching position (retention) or entered a new teaching contract (recruitment) across the empirical studies reviewed (see, for example, Clotfelter et al., 2010). The factor “salary” was noted, listed, and every time it was mentioned as an important job-related factor in the literature, it was tallied. Accordingly, the factor “salary” and items pulled from the literature to help capture this factor were included in the survey instrument. Items not as frequently mentioned but related to “salary” (e.g., potential for future growth in salary, monetary incentives other than salary, benefits, stipends, bonuses) were included to help capture this factor as well.

All subsequent factors and within factor items were organized into bins until items within each factor were as mutually exclusive as possible (Miles & Huberman, 1994). Because of inter-

correlated items, some of the decisions to place certain items within factors were somewhat random. Decisions about whether items like class size belonged with school-level or student-level items were made based on how each item fit with the items already resident within each factor category.

In the end, eight factors containing a total of 60 job-related items thought to be most important should these expert teachers ever decide to pursue a teaching position in a high-needs school were included in the online survey instrument (see below). Expert teacher participants were asked how important each of these job-related items would be if they ever decided to take a teaching position in a high-needs school (or a high-needs school different from the high-needs school in which they currently taught), and rankings were analyzed and ordered for ease in interpretation. It is unknown, however, whether these teachers would in fact move to teach in a high-needs school if policymakers followed their recommendations, but the recommendations are important nonetheless, even at a hypothetical level (see also Loeb, Elfers, Plecki, Ford, & Knapp, 2006).

### **The eight factors used to evaluate what it might take to recruit teachers into high-needs schools.**

- 1) Salary:** Salary; Potential for future salary growth; Monetary incentives related to highly qualified teacher distinction(s); Benefits (e.g., health insurance, sick leave)
- 2) Community:** School safety; The school environment; The neighborhood in which the school is situated; The way in which the community supports students; The location of the school given its proximity to home
- 3) School:** Class sizes; Access to resources (e.g., technology, materials); Reasonable teaching assignments; Extra duty responsibilities; Preparation times guaranteed during the school day
- 4) Administration:** The principal at the school; The principal's vision for the school; The professionalism of the principal; The mutual respect between the principal and the teachers; Helpful feedback provided by the principal regarding teaching; The support staff
- 5) Teacher Professionalism:** Professional development opportunities; The extent to which the voices of the teachers are heard in school decision-making; The extent to which everyone at the school is committed to the same goals; The extent to which teachers have opportunities to take on leadership roles within the school; The extent to which teachers have opportunities to collaborate with other teachers; The extent to which teachers have opportunities to mentor other teachers; The extent to which teachers have opportunities to watch and review other teachers' teaching; The extent to which teachers establish realistically high standards for their students; The extent to which teachers follow the state standards; The extent to which teachers have control over what happens in the classroom; The extent to which teachers have the knowledge to teach their content areas effectively; The extent to which teachers encourage higher-order and critical thinking skills during lessons; The extent to which teachers are committed to students' learning; The extent to which teachers manage or monitor their students' learning; The extent to which teachers learn from their own practice; The extent to which teachers are recognized for good work; The extent to which teachers are involved in professional development activities; The extent to which current research is valued in the classroom; The extent to which teachers are committed to the profession (e.g., active in professional organizations, advocacy efforts, etc); The extent to which teachers value the cultural diversity of their students; The extent to which teachers value students' families; The extent to which teachers believe that all students can learn
- 6) Student:** Student behavior; Ethnic diversity of students; Students' socio-economic backgrounds; Parental involvement; The support for teaching English Language Learners in each classroom; The support for teaching special needs students in each classroom; Levels of student motivation; How issues of student discipline are handled

**7) Student Achievement:** Student achievement on standardized tests; The emphasis on standardized tests; The extent to which standardized test scores are used to evaluate teachers; The extent to which standardized test scores are used to make data-driven decisions; The state's label for the school based on its standardized test performance

**8) Caring:** The extent to which the principal cares about the teachers in the school; The extent to which the principal cares about the students in the school; The extent to which teachers care about other teachers in the school; The extent to which teachers care about the students in the school; The extent to which people in the school care about you as a person

Teacher participants were also asked five open-ended, free response questions. The researcher included these questions to capture this set of expert teachers' impromptu beliefs and opinions about what they would deem most important if policymakers implemented measures to recruit and retain them in high-needs schools. General demographic and other background data were also collected including items like current professional position; total years teaching experience; grade levels and subject areas taught; highest degree(s) earned; from what type of institution (in- or out-of-state public or private); and other distinction(s) or award(s) with which participants might have been honored as expert teachers in the profession.

**Validation of the Survey Instrument**

Researcher(s) based the 60 Likert-type items included on a four-category rating scale; levels of agreement were allocated more and levels of disagreement were allocated fewer points. The strategy in validation was to seek empirical evidence to support the hypothesis that each of the items included within each of the eight factors hung together. The evidence sought included sufficient alpha reliability estimates for each scale (Cronbach, 1951), a structure for the responses resulting from a factor analysis that supported the hypothesis, and statistically significant mean differences between the eight scales representing the factors. This not only supported the eight-scale interpretation but also lead to the rank-ordered set of job-related preferences (forthcoming).

Alpha reliability estimates are included in Table 8. All coefficients were high, ranging from 0.795 to 0.956. Factor 6 could have had fewer items and still retained high internal consistency reliability. All factors were judged to be sufficient for the purposes of this study.

Table 8  
*Validity evidence for the interpretations of the eight factors of the study*

Name of Factor	No. of Items	Cronbach Alpha	Explained Variance	Mean	SD
1 Salary	4	0.831	9.341	2.182	0.773
2 Community	5	0.785	8.235	2.773	0.714
3 School	5	0.741	7.460	2.383	0.636
4 Administration	6	0.935	12.238	2.785	0.946
5 Teacher Professionalism	22	0.956	8.421	2.514	0.682
6 Student	8	0.864	7.045	2.507	0.633
7 Student Achievement	5	0.795	5.833	1.997	0.663
8 Caring	5	0.886	12.342	3.017	0.757

The researcher also conducted an ordinary principal components factor analysis, and chose

the rotation method based on the idea that eight factors would emerge of approximately equal factor structure. According to Gorsuch (1983), the equamax rotation simplifies components and variables so they are not correlated with one another. It spreads variance equally across factors using varimax and quartimax criteria, which was the desired direction of this validation. The results were more than adequate for this eight-factor solution.

### Methods of Data Analysis

The researcher used data collected initially, including background and demographic information and school data (student demographics, indicators of student poverty, standardized test scores and proficiency levels, etc.) to document Arizona's expert teacher distribution. Where Arizona's population of expert teachers teach, what types of students they teach, and with what types of colleagues they teach were examined.

In terms of actual survey results, the researcher calculated frequency statistics to analyze each background question included in the demographic section of the survey instrument, and the researcher used descriptive and inferential statistics on participant responses on the Likert-type items. The researcher calculated factor means, standard deviations, significance levels ( $p < 0.05$ ), and effect sizes for each of the eight factors (see Table 9 in the Appendix). Factor means were rank ordered to illustrate the factors which this sample of expert teachers deemed most to least important should they ever decide to teach in a high-needs school (or a high-needs school different from the high-needs school in which they currently taught).

The researcher read, coded, re-read, and categorized participants' open-ended, free-responses into bins (Miles & Huberman, 1994). As responses converged, overall themes were constructed. The researcher quantified themes, checked for mutual exclusivity, and then validated findings through a series of teacher-participant checks. These were done by phone interview if participants expressed willingness to help verify and validate study findings. In total, the researcher followed-up with 9 teacher volunteers by phone (10.1% response).

## Findings and Implications

### Demographics

#### *Population Demographics<sup>2</sup>*

Arizona's expert teachers teach in the highest achieving schools in the state. Ninety-nine percent teach in schools that are meeting the state's academic standards and the Adequate Yearly Progress (AYP) targets written into NCLB, 1% teach in underperforming schools, and none teach in failing schools. Seventy-five percent teach in the top 20 school districts in the state as ranked by student composite test performance, 4% teach in schools in rural communities, and none of Arizona's expert teachers teach on a reservation. On average, students in schools with expert teachers on staff outperform Arizona students across grade levels and core subjects as tested on the state-mandated Arizona Instrument to Measure Standards (AIMS) content tests.

Arizona's expert teachers teach in schools with other "more qualified" teachers. They teach in schools with fewer teachers with only a bachelor's degree and more teachers with at least a master's degree as compared to the state average, and they teach in schools with fewer teachers with three or fewer years of experience and more teachers with over three years of experience. Arizona's expert teachers teach in schools with fewer racial minority students, and they teach in schools with

---

<sup>2</sup> Statistical significance, although likely given the fact that most of Arizona's public school students are included in the state data, could not be tested for these assertions. Standard deviations and the numbers of students included in each reported state-level variable used in this section were not available.

fewer students from low-income households (students eligible for free-and-reduced lunches), fewer students who are ELLs, fewer special needs students, and they teach in classrooms with smaller student to teacher ratios at an average ratio of 20:1. The state average student to teacher ratio is the second highest in the nation at 21:3 (MuniNetGuide, 2008).

#### *Sample Demographics*

The expert teachers who participated in this study were predominantly female (82%). Approximately 93% of them were white/non-Hispanic. Six percent were Hispanic/Latino(a), and 1% classified their race as “other.” Just over 83% of the teacher participants did not speak a language other than English. They had an average of 18.8 years of teaching experience, and 66% reported that they had taught in at least one high-needs school (following the definition written into NCLB presented earlier) throughout their teaching career. They most often taught in the primary grades, least often taught in middle school or junior high, and most often taught core subject areas and special needs students. Just over half (52%) received a teaching degree from a public college or university within the state, and 87% had received at least one master’s degree with 2% earning doctorates.

Of the participants, 81% were classified as expert teachers by the NBPTS, 10% received either an Ambassador of Excellence or Teacher of the Year award, and 9% were chosen as exemplary teachers by leaders of the largest charitable educational foundation in the state. Over 40% of teacher participants earned other awards distinguishing them as expert teachers as well. These awards included excellence in teaching awards; Teacher of the Year awards from smaller, external organizations; teaching awards from news stations and other media outlets; national awards for teaching excellence; and student recognition awards. Twelve of the 89 (13.5%) teachers were acknowledged as “experts” on more than one of the three lists used to define this sample. This helps to validate that this sample of participants did indeed include some of the best teachers in the state.

#### **Expert Teacher Preferences and Policy Implications**

Figure 1 illustrates the factors Arizona’s expert teacher participants deemed most to least important should they ever choose to teach in a (or a different) high-needs school. The closer each item’s mean is to 4, the more important they deemed each item (see Table 9 in the Appendix for statistics, significance levels, and effect sizes).

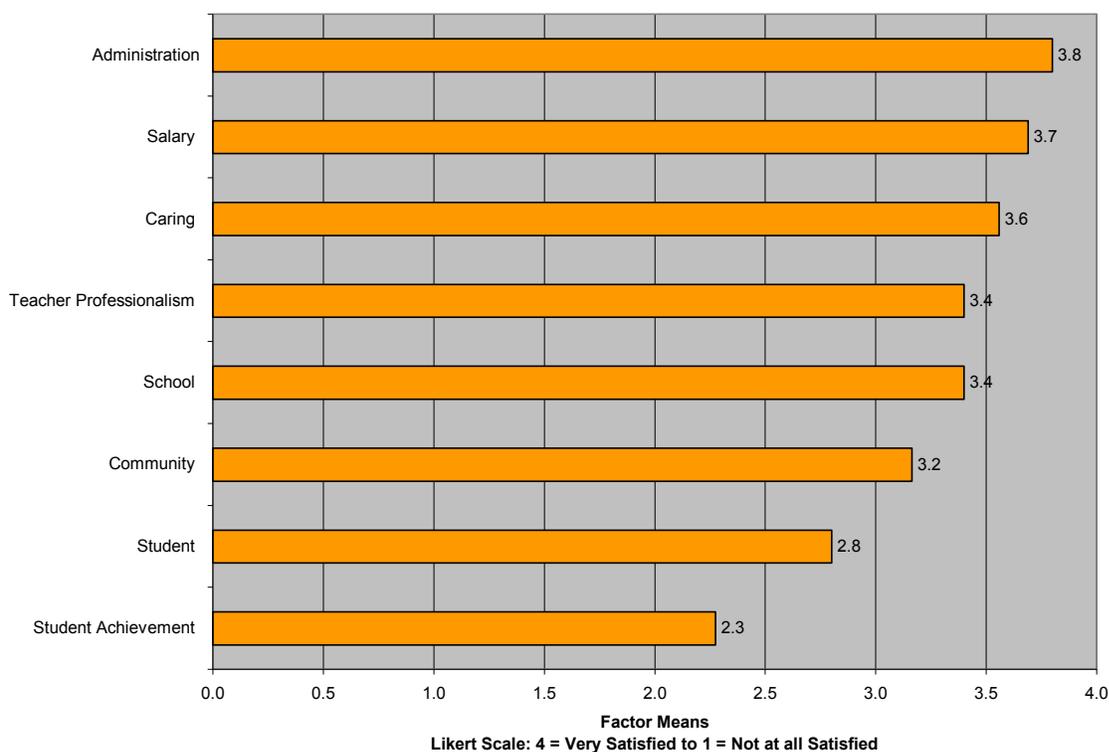


Figure 1. Factors Arizona's expert teachers found most to least important should they ever decide to teach in a (a different) high-needs school.

Across analyses, the quality of the principal at any high-needs school was the factor that mattered the most (see also Sawchuck, 2010). To the same extent that these teachers knew that placing an expert teacher into a high-needs classroom would improve student learning, they believed the same would occur if an expert principal was leading the high-needs school. They defined an expert principal as one who was caring, supportive, committed to teachers and student learning, open-minded, knowledgeable, wise, and an expert leader him/herself. In the same vein, this sample of expert teachers stated that the factor most likely to deter them from teaching in a high-needs school would be the potential for a controlling, uncaring, ineffective, and unsupportive principal.

In terms of policy recommendations, approximately one out of three teacher participants suggested that expert administrators be distinguished, for example, through a National Board for Professional Administrator Standards, like the National Board for Professional Teaching Standards, so that if they were ever to take a position in a high-needs school they would know beforehand the type of principal for whom they would be working. This is currently underway via the NBPTS's new National Board Certification for Educational Leaders (NCEL) standards and assessment program (NBPTS, 2011).

Second, if this set of Arizona's expert teachers was to teach in high-needs schools they would be more concerned about their salaries than all other factors, besides the principal (see also Clotfelter et al., 2010). Their potential for future salary growth, whether monetary incentives would be provided to them if they were to make such a move (stipends, bonuses, percent of salary increases), and the benefits (health insurance, sick leave) they might be offered would require consideration before they would contemplate making such a move. Participants suggested that once distinguished as expert teachers, they should be compensated for their expertise and compensated

progressively given the “sliding scale” of challenges they would ultimately face in high- to higher-needs schools. They also suggested that inter-district transfer policies needed to become less stringent so that expert teachers might more easily move positions across school districts without taking simultaneous hits in salary and benefits. There are indeed considerable disincentives and pecuniary policies preventing teachers who want to teach in high-needs schools from doing so.

To offset these challenges, teacher participants valued career-ladder and merit-pay programs and compensation programs that would incentivize them to become involved in more extra duty responsibilities including mentoring, coaching, and leading (see also Clotfelter et al., 2010; Darling-Hammond, 2007). Teacher participants also noted the importance of expert teacher residency programs, in particular like those being funded via the Talent Transfer Initiative (2010) whereas expert teachers could move to high-needs schools for a certain number of years to teach and mentor other teachers on staff. Another option was to “grow” expert teachers within high-needs districts.

In Arizona, in addition to state and private organizations’ efforts to subsidize applicants’ National Board application fees, some districts are cultivating NBCTs by enticing district teachers to enter the National Board process by financially subsidizing their application fees, giving them monetary incentives, and offering formal support programs to assist candidates in their efforts. Yet districts sponsoring these activities continue to serve predominantly middle- to upper-class students, those districts less hindered by uneconomical scales of implementation and restricted budgets (Rice & Hall, 2006).

Third, if this set of expert teachers were to teach in high-needs schools they would be concerned about caring factors. The extent to which the principal cared about the teachers and students, teachers cared about other teachers and students, and others cared about the teachers themselves were important considerations when these expert teachers contemplated this possibility. Participants stated that whether their colleagues were unified, knowledgeable, committed to learning, held high expectations, believed all students could learn, and were experts themselves was important as well. In short, teaching within what was perceived to be a caring, integrated, professional community mattered (see also Baker-Doyle, 2010; Barley & Beesley, 2007; Kardos & Johnson, 2007; Tamir, 2010; Tamir & Magidin de Kramer, 2011).

Related, expert teachers wanted to work with other expert teachers, especially when given such challenging tasks as increasing the perpetually poor levels of student achievement often found in these settings. They wanted to work more closely with principals as well, to share in school-wide leadership responsibilities. Throughout their responses, participants demonstrated a strong “service ethic” (Miech & Elder, 1996) as they expressed desires to work as field-based teacher educators, coaches, and mentors of less qualified teachers and to share a collective responsibility for their schools (Kardos & Johnson, 2007; see also Darling-Hammond, 2007). Throughout the results, respondents reported that they had long yearned for opportunities to help out, and they were very frustrated by limited chances or prospects of doing so.

Otherwise, this sample of Arizona’s expert teachers were concerned about having adequate facilities (see also Buckley et al., 2005) and access to technologies and suitable resources (e.g. basic supplies, new texts to replace those that are outdated and in poor condition, other essential materials). Teacher participants felt strongly about the relationship between personal and public resources and their effectiveness as teachers, and the last thing they wanted to do was dig deep into their own pockets to support their students’ learning.

On the contrary, teacher respondents were most indifferent about student achievement factors. How students performed on standardized achievement tests and the state’s label for the school based on its standardized test performance were the least of their concerns. This sample of Arizona’s expert teachers was more notably concerned about the emphasis the school might place

on standardized tests and the extent to which standardized test scores would be used to evaluate them as teachers or drive curriculum and instruction within their classrooms. They were also least concerned with student factors related to the socioeconomic and ethnic diversity of students in high-needs schools and the challenges they would face teaching these students. Nor were they overly concerned about community factors, the factors associated with the safety and overall environment of the school, or the neighborhood in which high-needs schools would be located, as long as the schools were not far from their homes.

## Conclusions

At present, and historically, expert teachers are not teaching in America's highest-needs schools. Yet expert teachers increase student achievement at significantly greater rates than do other regularly certified, highly qualified teachers (Bond et al., 2000; Goldhaber & Anthony, 2004; Hakel et al., 2008; Smith et al., 2005; Stronge et al., 2007). And expert teachers have been shown to increase the historically substandard levels of student achievement endemic to high-needs schools (Cavaluzzo, 2004; Fisher & Dickenson, 2005; Goldhaber et al., 2003).

Recruitment incentives are needed to attract and keep expert teachers in the high-needs schools where they are needed most (Darling-Hammond, 2007). This is not to say that that all expert teachers would always be successful working in more challenging contexts teaching more diverse students (Jackson, 2010). But because high-needs schools are at such focus for intervention and improvement, dramatic measures must be considered and innovative, radical policies must be implemented to counter the inferior levels of teacher quality and student learning and achievement present and perpetuated in such settings. Simply recruiting expert teachers to work in high-needs schools will not work unless policy efforts are considered holistically and are informed by the teachers who themselves are being requested to move. Educational leaders and others need to listen to the voices of these and other expert teachers across the country to further inform educational practices and policies and to improve teacher quality and the historically substandard levels of student learning and achievement inhibiting America's neediest.

Unlike other industrialized nations, the United States does not have a systematic approach to nurturing teacher talent or recruiting and retaining expert, excellent, or even highly qualified teachers (Darling-Hammond, 2007). As a country, "we have failed to attract, develop, reward or retain outstanding professional teaching talent on a consistent basis" (Auguste et al., 2010, p. 5). That said, it is the responsibility of policymakers to take ownership over such initiatives (see also Borman & Dowling, 2008) and produce meaningful plans for action that would have a considerable impact on all constituent groups. At the least, educational leaders and others might begin to listen, think, and start asking questions.

What financial resources would be needed to entice expert teachers to move into high-needs schools and support them once they get there? What are the programs and processes which must be put into place before expert teachers can truly serve as mentors, coaches, and share in leadership responsibilities? What are some of the ways by which administrators might be validated as experts, and possibly recruited to take on leadership roles in high-needs schools as well? What are the local, contextual factors that might influence program and procedural effectiveness and success? What level(s), state and/or district, should shoulder such initiatives and their related program and procedural costs? Given limited resources, particularly within high-needs districts, and particularly given a significant financial crisis looming, how can educational leaders and legislators best navigate through issues of control, cost sharing, cost burden, and financial projections and obligations if such initiatives were advanced? Given a fixed amount of resources in a time of reduced budgets, how

should resources be allocated to improve the learning and achievement outcomes of America's lowest-performing students?

According to the expert teacher participants surveyed in this study, the quality of the principal; salary, bonuses, benefits and resource considerations; and the degree to which expert teachers can work in multiple roles to enhance student learning - leadership, colleagues, and money - are the most important factors with which educational leaders might be concerned when thinking about recruiting America's expert teachers into high-needs schools... and retaining them once there.

## References

- AEL - The Institute for the Advancement of Research in Education. (2003). *Recruiting and retaining high-quality teachers in rural areas*. Retrieved from [www.edvantia.org/products/pdf/PB\\_Rural\\_Teachers.pdf](http://www.edvantia.org/products/pdf/PB_Rural_Teachers.pdf)
- Annie E. Casey Foundation. (2010). *KidsCount: A national and state-by-state effort to track the status of children in the United States*. Retrieved from <http://www.aecf.org/MajorInitiatives/KIDSCOUNT.aspx>
- Arizona Department of Education (ADE). (2008). *Arizona Department of Education: School Report Card System*. Retrieved from <http://www10.ade.az.gov/ReportCard/>
- Auguste, B., Kihn, P., & Miller, M. (2010). *Closing the talent gap: Attracting and retaining top-third graduates to careers in teaching: An international and market research-based perspective*. Social Sector Office, McKinsey & Company. Retrieved from [mckinseysociety.com/closing-the-talent-gap/](http://mckinseysociety.com/closing-the-talent-gap/)
- Amrein-Beardsley, A. (2008). Methodological concerns about the education value-added assessment system. *Educational Researcher*, 37(2), 65-75.
- Baker-Doyle, K. (2010). Beyond the labor market paradigm: A social network perspective on teacher recruitment and retention. *Education Policy Analysis Archives*, 18(26). Retrieved from <http://epaa.asu.edu/ojs/article/view/836>
- Barley, Z. A. & Beesley, A. D. (2007). Rural school success: What can we learn? *Journal of Research in Rural Education*, 22(1), 1-16.
- Bellwether Education Partners. (2011, August). *Recent teacher effectiveness legislation: How do the states stack up?* Bellwether Education Partners. Retrieved from <http://bellwethereducation.org/>
- Berliner, D. C. (2001). Learning about and learning from expert teachers. *International Journal of Educational Research*, 35(5), 463-482. doi:10.1016/S0883-0355(02)00004-6
- Berry, B. (2004). Recruiting and retaining 'high quality teachers' for hard to staff schools. *NAESP Bulletin*, 88(638), p. 5-27. doi:10.1177/019263650408863802
- Berry, B. (2008). *Recruiting and retaining quality teachers for high-needs schools: Insights from NBCT summits and other policy initiatives*. Washington, DC: Center for Teaching Quality. Retrieved from [www.nbpts.org/index.cfm?t=downloader.cfm&id=757](http://www.nbpts.org/index.cfm?t=downloader.cfm&id=757)
- Berry, B. & Ferriter, B. (2006). *Every child deserves our best: Recommendations from North Carolina's National Board Certified Teachers on how to support and staff high-needs schools*. Washington, DC: National Education Association and the Center for Teaching Quality. Retrieved from [www.teachingquality.org/legacy/NC\\_NBCT.pdf](http://www.teachingquality.org/legacy/NC_NBCT.pdf)
- Bond, L., Smith, T.W., Baker, W. K., & Hattie, J.A. (2000). *The certification system of the National Board for Professional Teaching Standards: A construct and consequential validity study*. Greensboro, NC: Center for Educational Research and Evaluation.
- Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research*, 78(3), 367-409. doi:10.3102/0034654308321455

- Boyd, D., Lankford, H., Loeb, S., Ronfeldt, M., & Wyckoff, J. (2011). The role of teacher quality in retention and hiring: Using applications to transfer to uncover preferences of teachers and schools. *Journal of Policy Analysis and Management*, 30(1), 88-110. doi:10.1002/pam.20545
- Buckley, J., Schneider, M., & Shang, Y. (2005). Fix it and they might stay: School facility quality and teacher retention in Washington, D.C. *Teachers College Record*. doi:10.1111/j.1467-9620.2005.00506.x
- Capitol Hill Briefing. (2011, September 14). *Getting teacher evaluation right: A challenge for policy makers*. A briefing by E. Haertel, J. Rothstein, A. Amrein-Beardsley, and L. Darling-Hammond. Washington DC: Dirksen Senate Office Building (research in brief). Retrieved from <http://www.aera.net/Default.aspx?id=12856>
- Cavaluzzo, L. C. (2004). *Is National Board Certification an effective signal of teacher quality?* Alexandria, VA: The CNA Corporation. Retrieved from [http://www.nbpts.org/policy\\_center/education\\_policy\\_prek-1/redefining\\_teacher\\_quali](http://www.nbpts.org/policy_center/education_policy_prek-1/redefining_teacher_quali)
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2010). *Teacher labor markets, segregation and salary-based policies to combat inequity across schools*. Paper presented at the Annual Conference of the Society for Research on Educational Effectiveness.
- Cody, C. A., McFarland, J., Moore, J. E., & Preston, J. (2010, August). *The evolution of growth models. Public Schools of North Carolina*. Retrieved from <http://www.dpi.state.nc.us/docs/intern-research/reports/growth.pdf>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334. doi:10.1007/BF02310555
- Darling-Hammond, L. (1995). Inequality and access to knowledge. In J. A. Banks (Ed.) *The handbook of research on multicultural education*. New York, NY: Macmillan.
- Darling-Hammond, L. (2007, September 10). *Testimony before the House Education and Labor Committee on the re-authorization of No Child Left Behind*. Amesville, Ohio: The Forum for Education and Democracy. Retrieved from [www.srnleads.org/data/pdfs/nclb\\_testimony.pdf](http://www.srnleads.org/data/pdfs/nclb_testimony.pdf)
- Dessoff, A. (2010, June). Persuading teachers to go rural. *District Administration*, 46(6), 58-60.
- Education Week (2008). *Arizona: A special supplement to Education Week's Quality Counts*. Retrieved from <http://www.edweek.org/media/ew/qc/2008/18shr.az.h27.pdf>
- Fisher, S. & Dickenson, T. (2005). *A study of the relationship between the National Board Certification status of teachers and students' achievement*. Technical report prepared for the South Carolina State Department of Education. Study conducted by the College of Education, University of South Carolina. Retrieved from [www.education-consumers.com/.../South%20Carolina%20NBPTS%20report.pdf](http://www.education-consumers.com/.../South%20Carolina%20NBPTS%20report.pdf)
- Glennie, E., Coble, C.R., & Allen, M. (2004). *Teacher perceptions of the work environment in hard-to-staff schools*. Denver, CO: Education Commission of the States. Retrieved from <http://www.ecs.org/clearinghouse/55/87/5587.doc>
- Goldhaber, D. & Anthony, E. (2004). *Can teacher quality be effectively assessed?* Seattle, WA: Center on Reinventing Public Education. Retrieved from [www.urban.org/uploadedpdf/410958\\_NBPTSOutcomes.pdf](http://www.urban.org/uploadedpdf/410958_NBPTSOutcomes.pdf)
- Goldhaber, D., & Hansen, M. (2009). National Board Certification and teachers' career paths: Does NBPTS Certification influence how long teachers remain in the profession and where they teach? *Education Finance and Policy*, 4(3), 229-262.
- Goldhaber, D., Perry, D., & Anthony, E. (2003). *NBPTS Certification: Who applies and what factors are associated with success?* Washington, DC: The Urban Institute. Retrieved from [http://www.urban.org/UploadedPDF/410656\\_NBPTSCertification.pdf](http://www.urban.org/UploadedPDF/410656_NBPTSCertification.pdf)
- Gomez, M. L. & Rodriguez, T. L. (2011). Imagining the knowledge, strengths, and skills of a Latina

- prospective teacher. *Teacher Education Quarterly*, 38(1), 127-146.
- Gorsuch, R. (1983). *Factor analysis* (2<sup>nd</sup> ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Grissmer, D., Flanagan, A., Kawata, J., & Williamson, S. (2000). *Improving student achievement: What NAEP test scores tell us?* Santa Monica, CA: RAND Corporation.
- Gritz, R. M. & Theobald, N. D. (1996). The effects of school district spending priorities on length of stay in teaching. *Journal of Human Resources*, 31(3), 477-512. doi:10.2307/146262
- Hakel, M. D., Koenig, J. A., & Elliott, S. W. (2008). *Assessing accomplished teaching: Advanced-level certification programs*. Washington, D.C. The National Academies Press.
- Hanushek, E.A., Kain, J.K., & Rivkin, S.G. (1999). *Do higher salaries buy better teachers?* Cambridge, MA: National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w7082.pdf>
- Hanushek, E. A. & Rivkin, S.G. (2003). Does public school competition affect teacher quality? *The Economics of School Choice*. Chicago, IL: University of Chicago Press. Retrieved from [www.nber.org/chapters/c10084.pdf](http://www.nber.org/chapters/c10084.pdf)
- Harris, D. N. (2011). *Value-added measures in education: What every educator needs to know*. Cambridge, MA: Harvard Education Press.
- Humphrey, D. C., Koppich, J. E., & Hough, H. J. (2005). Sharing the wealth: National Board Certified Teachers and the students who need them most. *Education Policy Analysis Archives*, 13(18). Retrieved from <http://epaa.asu.edu/epaa/v13n18/>
- Ingersoll, R.M. (2002). *Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers?* Center for American Progress and the Institute for America's Future. Retrieved from [www.americanprogress.org/kf/ingersoll-final.pdf](http://www.americanprogress.org/kf/ingersoll-final.pdf)
- Ingersoll, R. & Henry, M. (2010). *The magnitude, destinations and determinants of mathematics and science teacher turnover*. Society for Research on Educational Effectiveness. Retrieved from [www.gse.upenn.edu/pdf/rmi/MathSciTeacherTurnover.pdf](http://www.gse.upenn.edu/pdf/rmi/MathSciTeacherTurnover.pdf)
- Jackson, D. K. (2010). *Match quality, worker productivity, and worker mobility: Direct evidence from Teachers*. Cambridge, MA: National Bureau of Educational Research. Retrieved from <http://www.nber.org/papers/w15990>
- Kardos, S. M. & Johnson, S. M. (2007). On their own and presumed expert: New teachers' experience with their colleagues. *Teachers College Record*, 109(9), 2083-2106.
- Kids Count (2007). *State-level data online: Arizona*. Baltimore, MD: Annie E. Casey Foundation. Retrieved from <http://www.aecf.org/kidscount>
- Knapp, M.S. (1998). *Policy, poverty, and capable teaching: Assumptions and issues in policy design*. Paper presented at the Third Missouri Symposium on Research and Educational Policy: Social Class, Poverty and Education, Columbia, MO.
- Laczko-Kerr, I. & Berliner, D.C. (2002). The effectiveness of "Teach for America" and other under-certified teachers on student academic achievement: A case of harmful public policy. *Education Policy Analysis Archives*, 10(37). Retrieved from <http://epaa.asu.edu/epaa/v10n37/>
- Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis* 24(1), 37-62. doi:10.3102/01623737024001037
- Loeb, H., Elfers, A. M., Plecki, M. L., Ford, B., & Knapp, M. S. (2006). *National Board Certified Teachers in Washington state: Impact on professional practice and leadership opportunities*. Center for Strengthening the Teaching Profession, University of Washington. Retrieved from <http://depts.washington.edu/ctpmail/PDFs/NBCTinWA.pdf>
- Markel, S. & Hall, M. (2004). *The condition of teacher quality in Arizona*. Education Policy Studies Laboratory: Arizona State University. Retrieved from <http://eps.asu.edu/aepi/EPSSL-0405->

- 109-AEPI.pdf
- Miech, R. & Elder, G.H. (1996). The service ethic and teaching. *Sociology of Education*, 69, 237-253. doi:10.2307/2112731
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative data analysis* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications.
- Morrison Institute (2003). *Is there a teacher shortage? Demand and supply in Arizona*. Tempe, AZ: Morrison Institute for Public Policy. Retrieved from [http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=ED472830&ERICExtSearch\\_SearchType\\_0=no&accno=ED472830](http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED472830&ERICExtSearch_SearchType_0=no&accno=ED472830)
- Morrison Institute (2005). *How Arizona compares: Real numbers and hot topics*. Tempe, AZ: Morrison Institute for Public Policy. Retrieved from <http://morrisoninstitute.asu.edu/publications-reports/az-policy-choices/arizonans-criticize-government-but-know-they-need-it>
- MuniNetGuide, (2008). *Student-teacher ratio: Is smaller always better?* Retrieved from <http://www.muninetguide.com/articles/StudentTeacher-Ratio--Is-Smaller-255.php>
- Murnane, R. J. & Olsen, R. (1989). The effects of salaries and opportunity costs on length of stay in teaching: Evidence from Michigan. *Review of Economics and Statistics*, 71(2), 347-352.
- National Board for Professional Teaching Standards (NBPTS). (2011). *National Board Certification for Educational Leaders (NBCEL)*. Retrieved from [http://www.nbpts.org/products\\_and\\_services/nbcel](http://www.nbpts.org/products_and_services/nbcel)
- National Center for Education Statistics (NCES). (2011). *State profiles: Arizona*. Retrieved November 13, 2011 from <http://nces.ed.gov/nationsreportcard/states/>
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).
- Nye, B., Konstantopoulos, S., & Heges, L.V. (2004). How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26(4), 237-257. doi:10.3102/01623737026003237
- Public Education Network. (2011). *No Child Left Behind Glossary*. Retrieved November 13, 2011 from [http://www.publiceducation.org/nclb\\_glossary.asp](http://www.publiceducation.org/nclb_glossary.asp)
- Pucella, T. J. (2011). The impact of National Board Certification on Burnout Levels in Educators. *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 84(2), 52-58.
- Rice, J. K. & Hall, J. H. (2006). *National Board Certification as professional development: What does it cost and how does it compare?* College Park, MD: Center for Education Policy and Leadership. Retrieved from <http://education.umd.edu/EDPA/CEPAL/NBPTS%20cost%20paper2.doc>
- Rinke, C. R. (2011). Career trajectories of urban teachers: A continuum of perspectives, participation, and plans shaping retention in the educational system. *Urban Education*, 46(4), 639-662. doi:10.1177/0042085911399790
- Sawchuck, S. (2009, January). School leaders target salary reform toward newer teachers. *Education Week*, 28(19), 1, 10.
- Sawchuck, S. (2010, June). New teacher distribution methods hold promise. *Education Week*, 29(35), 1, 16-17.
- Schwartzbeck, T. D. (2003). *Declining counties, declining school enrollments*. Arlington, VA: American Association of School Administrators. Retrieved from <http://aasa.files.cms-plus.com/images/PolicyLeg/EdIssues/Declining%20Counties%20R.pdf>
- Smith, T. W., Gordon, B., Colby, S. A., & Wang, J. (2005). *An examination of the relationship between depth of student learning and National Board Certification status*. Boone, NC: Office for Research on Teaching. Retrieved from <http://www.news.appstate.edu/releases/091905NBPTS%20Manuscrip.pdf>
- Stronge, J. H., Ward, T. J., Tucker, P. D., Hindman, J. L., McColsky, W., & Howard, B. (2007, December). National Board Certified Teachers and non-National Board Certified Teachers:

- Is there a difference in teacher effectiveness and student achievement? *Journal of Personnel Evaluation in Education*, 20(3-4), 185-210. doi:10.1007/s11092-008-9052-0
- Talent Transfer Initiative. (2010). *Talent Transfer Initiative: Change schools - transform lives*. Retrieved November 13, 2011 from <http://talenttransferinitiative.org/programoverview.cfm>
- Tamir, E. (2010). The retention question in context-specific teacher education: Do beginning teachers and their program leaders see teachers' future career eye to eye. *Teaching and teacher education*, 26, 665-678. doi:10.1016/j.tate.2009.10.002
- Tamir, E. & Magidin de Kramer, R. (2011). Teacher retention and career commitments among DeLeT graduates: The intersection of teachers' background, preparation for teaching, and school context. *Journal of Jewish Education*, 77, 76-97. doi:10.1080/15244113.2011.572268
- Tye, B. B. & O'Brien, L. (2002). Why are experienced teachers leaving the profession? *Phi Delta Kappan*, 8(1), 24-32.
- Wayne, A. J. (2000). Teacher supply and demand: Surprises from primary research. *Education Policy Analysis Archives*, 8(47). Retrieved from <http://olam.ed.asu.edu/epaa/v8n47.html>

### Appendix

Table 9

*T-Test statistic matrix - Factors expert teachers would consider if they were to ever take a teaching position in a high-needs schools*

Factors	Salary	Caring	Teacher Professionalism	School	Community	Student	Student Achievement
Administration	AD = 0.12 SD = 0.33 p = .009 ES = 0.36 df = 88	AD = 0.17 SD = 0.24 p = .011 ES = 0.71 df = 85	AD = 0.35 SD = 0.61 p = .000 ES = 0.57 df = 87	AD = 0.38 SD = 0.52 p = .000 ES = 0.73 df = 88	AD = 0.56 SD = 0.43 p = .000 ES = 1.30 df = 88	AD = 0.91 SD = 0.54 p = .000 ES = 1.69 df = 85	AD = 1.43 SD = 0.79 p = .000 ES = 1.81 df = 88
Salary		AD = 0.11 SD = 0.39 p = .008 ES = 0.28 df = 85	AD = 0.28 SD = 0.69 p = .001 ES = 0.41 df = 85	AD = 0.32 SD = 0.60 p = .000 ES = 0.53 df = 88	AD = 0.51 SD = 0.62 p = .000 ES = 0.82 df = 87	AD = 0.91 SD = 0.50 p = .000 ES = 1.82 df = 88	AD = 1.44 SD = 0.73 p = .000 ES = 1.97 df = 87
Caring			AD = 0.20 SD = 0.53 p = .005 ES = 0.38 df = 84	AD = 0.24 SD = 0.87 p = .000 ES = 0.28 df = 85	AD = 0.41 SD = 0.52 p = .000 ES = 0.79 df = 85	AD = 0.80 SD = 0.56 p = .000 ES = 1.43 df = 84	AD = 1.27 SD = 0.72 p = .000 ES = 1.77 df = 86
Teacher Professionalism				NS	AD = 0.21 SD = 0.68 p = .000 ES = 0.31 df = 88	AD = 0.61 SD = 0.62 p = .000 ES = 0.98 df = 85	AD = 1.13 SD = 0.71 p = .000 ES = 1.59 df = 86
School					AD = 0.23 SD = 0.60 p = .000 ES = 0.38 df = 82	AD = 0.64 SD = 0.48 p = .000 ES = 1.33 df = 85	AD = 1.13 SD = 0.51 p = .000 ES = 2.22 df = 86
Community						AD = 0.43 SD = 0.63 p = .000 ES = 0.68 df = 85	AD = 0.92 SD = 0.89 p = .000 ES = 1.03 df = 82
Student							AD = 0.48 SD = 0.38 p = .000 ES = 1.26 df = 85

\*NS = no significant difference between factor means, AD = absolute difference between factors (because factors are listed from those most to least likely to be considered, absolute factors are reported instead of factors with positive and negative coefficients), SD = standard deviations, p = significance levels, ES = effect sizes, and df = degrees of freedom. Confidence intervals specified at 95%.

\*\*N = 89; expert teacher participants were required to fill-out every item in this section of the survey instrument.

## About the Author

Audrey Amrein-Beardsley, Ph.D.  
Mary Lou Fulton Teachers College  
Arizona State University

Email: [audrey.beardsley@asu.edu](mailto:audrey.beardsley@asu.edu)

Dr. Amrein-Beardsley is currently an Associate Professor in the Mary Lou Fulton Teachers College at Arizona State University. Audrey's research interests include educational policy, research methods, and more specifically, high-stakes tests and value-added measurements and systems. In addition, she researches aspects of teacher quality and teacher education. She is also the creator and host of a show titled Inside the Academy during which she interviews some of the top educational researchers in the academy. For more information please see: <http://insidetheacademy.asu.edu>.

---

# education policy analysis archives

Volume 20 Number 27

September 10<sup>th</sup>, 2012

ISSN 1068-2341

---



Readers are free to copy, display, and distribute this article, as long as the work is attributed to the author(s) and **Education Policy Analysis Archives**, it is distributed for non-commercial purposes only, and no alteration or transformation is made in the work. More details of this Creative Commons license are available at <http://creativecommons.org/licenses/by-nc-sa/3.0/>. All other uses must be approved by the author(s) or **EPAA**. **EPAA** is published by the Mary Lou Fulton Institute and Graduate School of Education at Arizona State University. Articles are indexed in CIRC (Clasificación Integrada de Revistas Científicas, Spain), DIALNET (Spain), [Directory of Open Access Journals](#), EBSCO Education Research Complete, ERIC, Education Full Text (H.W. Wilson), QUALIS A2 (Brazil), SCImago Journal Rank; SCOPUS, SOCOLAR (China).

Please contribute commentaries at <http://epaa.info/wordpress/> and send errata notes to Gustavo E. Fischman [fischman@asu.edu](mailto:fischman@asu.edu)

Join **EPAA's Facebook community** at <https://www.facebook.com/EPAAAPE> and **Twitter feed** @epaa\_aape.

---

education policy analysis archives  
editorial board

Editor **Gustavo E. Fischman** (Arizona State University)

Associate Editors: **David R. Garcia** (Arizona State University), **Rick Mintrop**, (University of California, Berkeley)

**Jeanne M. Powers** (Arizona State University)

**Jessica Allen** University of Colorado, Boulder

**Gary Anderson** New York University

**Michael W. Apple** University of Wisconsin, Madison

**Angela Arzubiaga** Arizona State University

**David C. Berliner** Arizona State University

**Robert Bickel** Marshall University

**Henry Braun** Boston College

**Eric Camburn** University of Wisconsin, Madison

**Wendy C. Chi\*** University of Colorado, Boulder

**Casey Cobb** University of Connecticut

**Arnold Danzig** Arizona State University

**Antonia Darder** University of Illinois, Urbana-Champaign

**Linda Darling-Hammond** Stanford University

**Chad d'Entremont** Strategies for Children

**John Diamond** Harvard University

**Tara Donahue** Learning Point Associates

**Sherman Dorn** University of South Florida

**Christopher Joseph Frey** Bowling Green State University

**Melissa Lynn Freeman\*** Adams State College

**Amy Garrett Dikkers** University of Minnesota

**Gene V Glass** Arizona State University

**Ronald Glass** University of California, Santa Cruz

**Harvey Goldstein** Bristol University

**Jacob P. K. Gross** Indiana University

**Eric M. Haas** WestEd

**Kimberly Joy Howard\*** University of Southern California

**Aimee Howley** Ohio University

**Craig Howley** Ohio University

**Steve Klees** University of Maryland

**Jackyung Lee** SUNY Buffalo

**Christopher Lubienski** University of Illinois, Urbana-Champaign

**Sarah Lubienski** University of Illinois, Urbana-Champaign

**Samuel R. Lucas** University of California, Berkeley

**Maria Martinez-Coslo** University of Texas, Arlington

**William Mathis** University of Colorado, Boulder

**Tristan McCowan** Institute of Education, London

**Heinrich Mintrop** University of California, Berkeley

**Michele S. Moses** University of Colorado, Boulder

**Julianne Moss** University of Melbourne

**Sharon Nichols** University of Texas, San Antonio

**Noga O'Connor** University of Iowa

**João Paraskveva** University of Massachusetts, Dartmouth

**Laurence Parker** University of Illinois, Urbana-Champaign

**Susan L. Robertson** Bristol University

**John Rogers** University of California, Los Angeles

**A. G. Rud** Purdue University

**Felicia C. Sanders** The Pennsylvania State University

**Janelle Scott** University of California, Berkeley

**Kimberly Scott** Arizona State University

**Dorothy Shipps** Baruch College/CUNY

**Maria Teresa Tatto** Michigan State University

**Larisa Warhol** University of Connecticut

**Cally Waite** Social Science Research Council

**John Weathers** University of Colorado, Colorado Springs

**Kevin Welner** University of Colorado, Boulder

**Ed Wiley** University of Colorado, Boulder

**Terrence G. Wiley** Arizona State University

**John Willinsky** Stanford University

**Kyo Yamashiro** University of California, Los Angeles

\* Members of the New Scholars Board

archivos analíticos de políticas educativas  
consejo editorial

Editor: **Gustavo E. Fischman** (Arizona State University)

Editores. Asociados **Alejandro Canales** (UNAM) y **Jesús Romero Morante** (Universidad de Cantabria)

**Armando Alcántara Santuario** Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México

**Claudio Almonacid** Universidad Metropolitana de Ciencias de la Educación, Chile

**Pilar Arnaiz Sánchez** Universidad de Murcia, España

**Xavier Besalú Costa** Universitat de Girona, España

**Jose Joaquin Brunner** Universidad Diego Portales, Chile

**Damián Canales Sánchez** Instituto Nacional para la Evaluación de la Educación, México

**María Caridad García** Universidad Católica del Norte, Chile

**Raimundo Cuesta Fernández** IES Fray Luis de León, España

**Marco Antonio Delgado Fuentes** Universidad Iberoamericana, México

**Inés Dussel** FLACSO, Argentina

**Rafael Feito Alonso** Universidad Complutense de Madrid, España

**Pedro Flores Crespo** Universidad Iberoamericana, México

**Verónica García Martínez** Universidad Juárez Autónoma de Tabasco, México

**Francisco F. García Pérez** Universidad de Sevilla, España

**Edna Luna Serrano** Universidad Autónoma de Baja California, México

**Alma Maldonado** Departamento de Investigaciones Educativas, Centro de Investigación y de Estudios Avanzados, México

**Alejandro Márquez Jiménez** Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México

**José Felipe Martínez Fernández** University of California Los Angeles, USA

**Fanni Muñoz** Pontificia Universidad Católica de Perú

**Imanol Ordorika** Instituto de Investigaciones Economicas – UNAM, México

**María Cristina Parra Sandoval** Universidad de Zulia, Venezuela

**Miguel A. Pereyra** Universidad de Granada, España

**Monica Pini** Universidad Nacional de San Martín, Argentina

**Paula Razquin** UNESCO, Francia

**Ignacio Rivas Flores** Universidad de Málaga, España

**Daniel Schugurensky** Universidad de Toronto-Ontario Institute of Studies in Education, Canadá

**Orlando Pulido Chaves** Universidad Pedagógica Nacional, Colombia

**José Gregorio Rodríguez** Universidad Nacional de Colombia

**Miriam Rodríguez Vargas** Universidad Autónoma de Tamaulipas, México

**Mario Rueda Beltrán** Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México

**José Luis San Fabián Maroto** Universidad de Oviedo, España

**Yengny Marisol Silva Laya** Universidad Iberoamericana, México

**Aida Terrón Bañuelos** Universidad de Oviedo, España

**Jurjo Torres Santomé** Universidad de la Coruña, España

**Antoni Verger Planells** University of Amsterdam, Holanda

**Mario Yapu** Universidad Para la Investigación Estratégica, Bolivia

arquivos analíticos de políticas educativas  
conselho editorial

Editor: **Gustavo E. Fischman** (Arizona State University)  
Editores Associados: **Rosa Maria Bueno Fisher** e **Luis A. Gandin**  
(Universidade Federal do Rio Grande do Sul)

**Dalila Andrade de Oliveira** Universidade Federal de Minas Gerais, Brasil  
**Paulo Carrano** Universidade Federal Fluminense, Brasil  
**Alicia Maria Catalano de Bonamino** Pontifícia Universidade Católica-Rio, Brasil  
**Fabiana de Amorim Marcello** Universidade Luterana do Brasil, Canoas, Brasil  
**Alexandre Fernandez Vaz** Universidade Federal de Santa Catarina, Brasil  
**Gaudêncio Frigotto** Universidade do Estado do Rio de Janeiro, Brasil  
**Alfredo M Gomes** Universidade Federal de Pernambuco, Brasil  
**Petronilha Beatriz Gonçalves e Silva** Universidade Federal de São Carlos, Brasil  
**Nadja Herman** Pontifícia Universidade Católica –Rio Grande do Sul, Brasil  
**José Machado Pais** Instituto de Ciências Sociais da Universidade de Lisboa, Portugal  
**Wenceslao Machado de Oliveira Jr.** Universidade Estadual de Campinas, Brasil

**Jefferson Mainardes** Universidade Estadual de Ponta Grossa, Brasil  
**Luciano Mendes de Faria Filho** Universidade Federal de Minas Gerais, Brasil  
**Lia Raquel Moreira Oliveira** Universidade do Minho, Portugal  
**Belmira Oliveira Bueno** Universidade de São Paulo, Brasil  
**Antônio Teodoro** Universidade Lusófona, Portugal  
**Pia L. Wong** California State University Sacramento, U.S.A  
**Sandra Regina Sales** Universidade Federal Rural do Rio de Janeiro, Brasil  
**Elba Siqueira Sá Barreto** Fundação Carlos Chagas, Brasil  
**Manuela Terrasêca** Universidade do Porto, Portugal  
**Robert Verhine** Universidade Federal da Bahia, Brasil  
**Antônio A. S. Zuin** Universidade Federal de São Carlos, Brasil