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Statement of Dr. Richard M. Ingersoll, 105th Congress, Teacher Preparation and Classroom Size Reduction

Richard Ingersoll
University of Pennsylvania, rmi@gse.upenn.edu

Published in *Teacher Preparation Initiatives: Hearing Before the Committee on Education and the Workforce, House of Representatives, One Hundred Fifth Congress*, February 1998.

NOTE: At the time of publication, author Richard M. Ingersoll, was affiliated with the University of Georgia. Currently, October 2007, he is a faculty member in the Graduate School of Education at the University of Pennsylvania.

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Abstract
This is a report of the problem of out-of-field teaching with federal policy recommendations presented by Dr. Ingersoll at the Congressional Hearings on Teacher Policy held in February, 1998. Brief summary included as supplemental material.

Comments
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STATEMENT OF

Richard M. Ingersoll
Assistant Professor
Department of Sociology
University of Georgia
Athens, GA 30602

Subcommittee on Early Childhood, Youth and Families
Committee on Education and the Workforce
United States House of Representatives

Teacher Preparation and Classroom Size Reduction
Tuesday, February 24, 1998
Rayburn House Office Building
Washington, DC

Published in

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Mr. Chairman and members of the Committee, I would like to thank you for the opportunity to appear before you today to discuss current issues surrounding the training and quality of our nation's elementary and secondary teaching workforce. For the past several years I have been undertaking research on problems with the qualifications of our high school teachers. I would like to talk about what I have found in this research.

Background

Few issues in our elementary and secondary schools are subject to more debate and discussion than the quality of teachers. Over the past decade, literally dozens of studies and national commissions have bemoaned the failure to insure that our nation's classrooms are all staffed with qualified teachers. As a result, in recent years reformers in many states have pushed, often successfully, for tougher teacher-licensing standards and more rigorous academic-coursework requirements for teaching candidates. Moreover, a whole host of initiatives and programs have sprung up which are designed to recruit new candidates into teaching. Among these are: programs designed to entice professionals into a mid-career change to teaching; alternative certification programs, whereby college graduates can postpone formal education training, obtain an emergency or provisional teaching certificate, and begin teaching immediately; Peace-Corps-like programs which are designed to lure the "best and brightest" into understaffed schools.

However, although insuring that our nation's classrooms are all staffed with qualified teachers is among the most important issues in our schools, it is also among the least understood. The array of recent efforts to recruit new teachers and to upgrade the training and education of new teachers are often very worthwhile. But, they alone will not solve the problems of

underqualified teachers and poor quality teaching in this country because they do not address some of their key causes.

One of the least recognized of these causes is the phenomenon of out-of-field teaching - teachers teaching subjects which do not match their training or education. Recruiting new teachers and requiring more rigorous education and training will not solve the problem if large numbers of such teachers continue to be assigned to teach subjects other than those for which they were trained.

One of the reasons for the lack of awareness of this problem has been an absence of accurate statistics on the subject - a situation now with the completion of a major new survey of the nation's elementary and secondary teachers by the National Center for Education Statistics (NCES) of the U.S. Department of Education - the Schools and Staffing Survey. Over the past several years, I have undertaken a research project, partly funded by NCES, that used this survey to determine how much out-of-field teaching goes on in this country and why.

My interest in this project originally stemmed from my previous experiences as a high school teacher, first in western Canada and then later in Pennsylvania and Delaware near where I had grown up. The job of teaching, I found to my surprise, was very different in Canada than in the U.S. One of the major differences, I quickly discovered, was out-of-field teaching. In the Canadian schools in which I taught, misassignment was frowned upon and a rare occurrence. In contrast, out-of-field teaching was neither frowned upon nor uncommon in the high schools, both public and private, in which I taught in the U.S. My field was social studies, but hardly a semester went by in which I was not assigned a couple of classes in other fields, such as math, special education, or English. Teaching a subject which one does not know is challenging, to

say the least. It is also, I came to believe, both very detrimental to the educational process and, largely, avoidable.

My experiences left me with a number of questions: Were the schools in which I taught unusual in this regard? Or, was out-of-field teaching also a common practice in other schools across the country, and if so, why? Later, after having left secondary teaching, and having completed a Ph.D., I got the opportunity to investigate these questions in a large-scale research project.

The findings of this research have been shocking, and as a result, have been featured in a number of major education policy reports and commissions, and widely reported and commented upon in the national media. They have, moreover, been replicated; other researchers have conducted statistical analyses of the various independent cycles of NCES' Schools and Staffing Survey and have found similar results. Unfortunately, however, there remains a great deal of misunderstanding of this problem.

Today I will very briefly summarize what I have found in my research. I would also be happy to provide, at a later date, copies of the publications and papers in which I have reported this research in detail.[1]

How Widespread is Out-of-Field Teaching?

There is a much controversy over how much and what kinds of training and education teachers ought to have to be considered "qualified." In my research I decided to skirt this debate by focusing on the most compelling case. I began by looking at whether teachers have a both

[1] Detailed reports of my research on out-of-field teaching can be found in two NCES research reports, *Teacher Supply, Teacher Quality and Teacher Turnover* (1995), *Out-of-Field Teaching and Educational Equality* (1996), and also a forthcoming research paper, *The Problem of Out-of-Field Teaching in American High Schools.*

teaching certificate (a license) and also an undergraduate, or even a graduate degree, in an academic discipline, but my primary focus quickly became discovering how many high school teachers do not have even minimal academic credentials - neither a major nor a minor - in their teaching fields. My assumption was that adequately qualified teachers, especially at the secondary school level and especially in the core academic fields, ought to have, as a minimum prerequisite, at least a college minor in the subjects they teach. In short, I assumed that few parents would expect their teenagers to be taught, for example, 11th grade trigonometry by a teacher who did not have a minor in math, no matter how bright the teacher. I found, however, that is precisely the case.

I found, for example, that almost one third of all high school math teachers do not have either a major or a minor in math, or related disciplines such as physics, engineering or math education (see Figure 1). Just over one fifth of all high school English teachers have neither a major or minor in English, or in related disciplines, such as literature, communications, speech, journalism, English education or reading education. It is worse within broad fields, such as science and social studies, which include many disciplines. Teachers in these departments are routinely asked to teach any of a wide array of subjects out of their discipline, but within the larger field. Partly for this reason, over half of all high school physical science teachers (chemistry, physics, earth science, or space science) do not have either a major or a minor in any of these physical sciences. Moreover, over half of all history teachers have neither a major nor a minor in history.

The actual numbers of students affected are not trivial. For example, in each of the fields of English, math and history, every year several million high school students are taught by

teachers without a major or minor in the field.

Out-of-field teaching also greatly varies across schools, teachers, and classrooms. For instance, recently hired teachers are more often assigned to teach subjects which do not match their training, than are more experienced teachers. Low-income public schools have higher levels of out-of-field teaching than do schools in more affluent communities. Particularly notable, however, is the effect of school size; small schools have high levels of out-of-field teaching. There are also differences within schools. Lower-track classes are more often taught by teachers without a major or minor in the field than are higher-track classes. Junior-high level classes are also more likely to be taught by out-of-field teachers than are senior high classes. Out-of-field teaching is, however, not simply a problem of the poor or the urban or the disadvantaged; it is found in high levels in both rural and urban schools and in both affluent and low-income schools in this country.

No doubt some of these out-of-field teachers may actually be qualified, despite not having a minor or major in the subject. Some may be qualified by virtue of knowledge gained through previous jobs, through life experiences or through informal training. Others may have completed substantial college coursework in a field, but not have gotten a major or minor. In Georgia, for instance, because school accreditation regulations require teachers to have at least 20 hours of college credit (about 4 courses) in a field to teach it, many of those in the state assigned to teach out of their fields probably do have some background.

My premise, however, was that even a moderate number of teachers lacking the minimal prerequisite of a college minor signals the existence of serious problems in our schools. And, this is clearly the case. Out-of-field teaching is not an aberration; it takes place in well over half

of all secondary schools in the U.S. in any given year. Indeed, if I were to change the definition of a "qualified" teacher, for instance, to include only those who held *both* a college major and a teaching certificate in the field, the amount of out-of-field teaching substantially increases. Moreover, I found that out-of-field teaching is a chronic condition; levels of out-of-field teaching have changed little from the late 1980s to the mid 1990s.

The negative implications of such high levels of out-of-field teaching are obvious. Is it any surprise, for example, that our students' science achievement is so low given, that *even* at the 12th grade level, 41 percent of public secondary school students in physical science classes are taught by teachers with neither a major nor a minor in either chemistry, physics or earth science?

The crucial question, and the source of great misunderstanding, is why so many teachers are teaching subjects for which they have little background.

Sources of Out-of-field Teaching

Many people assume that out-of-field teaching is a problem of poorly trained or educated teachers and can be remedied by more rigorous teacher education and training standards. This is only partly correct.

The data show that almost all teachers in the U.S. have completed a college education and almost half have graduate degrees. Moreover 94 percent of public school teachers hold regular state-approved teaching certificates (see Figure 2). The source of out-of-field teaching lies not in the amount of education teachers have, but in the lack of fit between teachers' fields of training and their teaching assignments. Many teachers are assigned by their principals to teach classes which do not match their training or education.

The implications of this distinction for reform are important. There is no question that

the qualifications of the teaching force can benefit from upgraded education and training requirements. This is the virtue of reforms designed to enhance the training of teachers, and the ongoing efforts by many states to toughen entry criteria, increase academic coursework requirements, enact more stringent certification standards, and increase the use of testing for teachers. However, while very worthwhile, none of these kinds of reforms will eliminate out-of-field teaching assignments and, hence, alone will not solve the problem of underqualified teaching in our nation's classrooms. In short, mandating more rigorous coursework and certification requirements will help little if large numbers of such teachers continue to be assigned to teach subjects other than those for which they were educated or certified.

A second explanation for out-of-field teaching blames teacher unions. In this view, self-serving work rules promulgated by teacher unions are the main reason that classrooms are often staffed with underqualified teachers. The use and abuse of such rules, according to this view, is especially prevalent in times of teacher oversupply, when school officials, due to fiscal cutbacks or declining enrollments, are faced with the necessity of cutting or shifting staff. In such situations, "last-hired, first-fired" seniority rules require that more experienced teachers must be given priority, regardless of competence. As a result, so his argument goes, veteran teachers are often given out-of-field assignments, junior staff are transferred or laid off and students suffer accordingly.

The data do not provide support for this explanation of out-of-field teaching. Indeed, the data suggest the opposite is the case. Beginning teachers are more prone than experienced teachers to be misassigned, and both public and private schools with unions usually have less, not more, out-of-field teaching.

Union work rules certainly have an impact on the management and administration of schools and, depending upon one's viewpoint, this impact may be positive or negative, but eliminating teacher unions will not eliminate out-of-field teaching.

The most popular explanation of the problem of out-of-field teaching blames teacher shortages. This view holds that shortfalls in the number of available teachers primarily due to increasing student enrollments and a "graying" teaching workforce have forced many school systems to resort to lowering standards to fill teaching openings, the net effect of which is out-of-field teaching. That includes hiring underqualified candidates, shifting existing staff members trained in one field to teach in another, or instituting alternative recruitment programs whereby college graduates can begin teaching immediately without obtaining a license.

This last view is also only partly correct. The data show that, consistent with the shortage predictions, demand for teachers has, in fact, increased since the mid 1980s. Student enrollments have steadily increased, teacher retirements have steadily increased, an overwhelming majority of schools have had job openings for teachers, and the size of the teaching workforce has steadily increased. And, substantial number of schools do report some degree of difficulty filling their teaching vacancies with qualified candidates. Finally, and most importantly, when faced with such difficulties, administrators tell us they most commonly do three things: hire less qualified teachers; assign teachers trained in another field or grade level to teach in the understaffed area; and make extensive use of substitute teachers. Each of these particular coping strategies results in out-of-field teaching.

But, it is a mistake to assume, as it has been commonly done, that hiring difficulties and out-of-field teaching are due to teacher shortages, in the conventional sense of too few

candidates available and willing to enter teaching. While it is true that student enrollments are increasing, the demand for new teachers is not primarily due to these increases. The demand for new teachers is primarily due to teachers moving from or leaving their jobs and while it is true that teacher retirements are increasing, teacher turnover appears to have little to do with a graying workforce. In contrast, the high rates of teacher turnover that plague schools, teachers report, are far more often a result of two related causes: teachers seeking to better their careers and/or teachers dissatisfied with teaching as a career (see Figure 3).[2]

The implications of this for reform are important. Initiatives and programs, designed to recruit new candidates into teaching, while worthwhile in many ways, alone, will not solve the problem of underqualified teachers in classrooms if they do not also address the factor which, the data suggest, does lead to severe staffing inadequacies in schools: too little teacher retention. In short, recruiting more teachers will help little if large numbers of such teachers then leave.

The data show, understandably enough, that low salaries, rampant student discipline problems, and little faculty input into school decisionmaking all contribute to high rates of teacher turnover. Improving these things would decrease turnover, which would quickly eliminate the so-called shortages. It would also remove much of the need for out-of-field assignments in the first place.

An Alternative View

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[2] In figure 3 turnover refers to all those who moved from or left their public school teaching jobs in the 1991-92 year. Teachers could list up to 3 reasons for their departures. I categorized these as follows: school staffing action (reduction-in-force, lay-off, school closing, reassignment); dissatisfaction (dissatisfied with teaching as a career, or with school, or with salary/benefits; career (pursue another career, to take courses to improve career opportunities, for better job); retirement.

This points to, what I have come to believe, is a far more fundamental problem facing the teaching occupation and the real cause of the problem of out-of-field teaching.

Unlike in Canada and also in many European and Asian nations, in this country elementary and secondary school teaching is largely treated as low-status work and teachers as semi-skilled workers. Except in an emergency, few would require cardiologists to deliver babies, real estate lawyers to defend criminal cases, chemical engineers to design bridges or sociology professors to teach English. The commonly held assumption is that such traditional professions require a great deal of skill and training, that is, expertise, and, hence, specialization is assumed necessary. In contrast, the commonly held assumption is that elementary and secondary school teaching require far less skill, training and expertise than these traditional professions.

It is perhaps true that teaching may require less expertise than some other kinds of work but, those who have spent time in classrooms know that high quality teaching requires a great deal of expertise and skill and that teachers are not like interchangeable blocks that can be placed in any empty slot regardless of their type of training. Indeed, the best contemporary research on the process of teaching has begun to insightfully illuminate the complex combination of art, craft and science that good teaching entails.

It is the low status and standing of teaching, exemplified by a lack of respect for the complexity and importance of the job of teaching, that has resulted, I believe, in what the data tell us - that teaching is plagued by problems of both recruitment and retention and that out-of-field teaching is not simply an emergency condition, but a common practice in the majority of secondary schools in this country.

The implications of this view for reform are clear. The way to make sure there are qualified teachers in every classroom is to upgrade the job of teaching. Well paid, well respected occupations with good working conditions rarely have difficulties with recruitment or retention and, if so, do not resort to lowering standards as a coping mechanism. If teaching was treated as a highly valued profession, one requiring a great deal of knowledge and skill to do well, there would be no problem attracting and retaining more than enough excellent teachers, and there would be little problem insuring that all classrooms were staffed with qualified teachers.

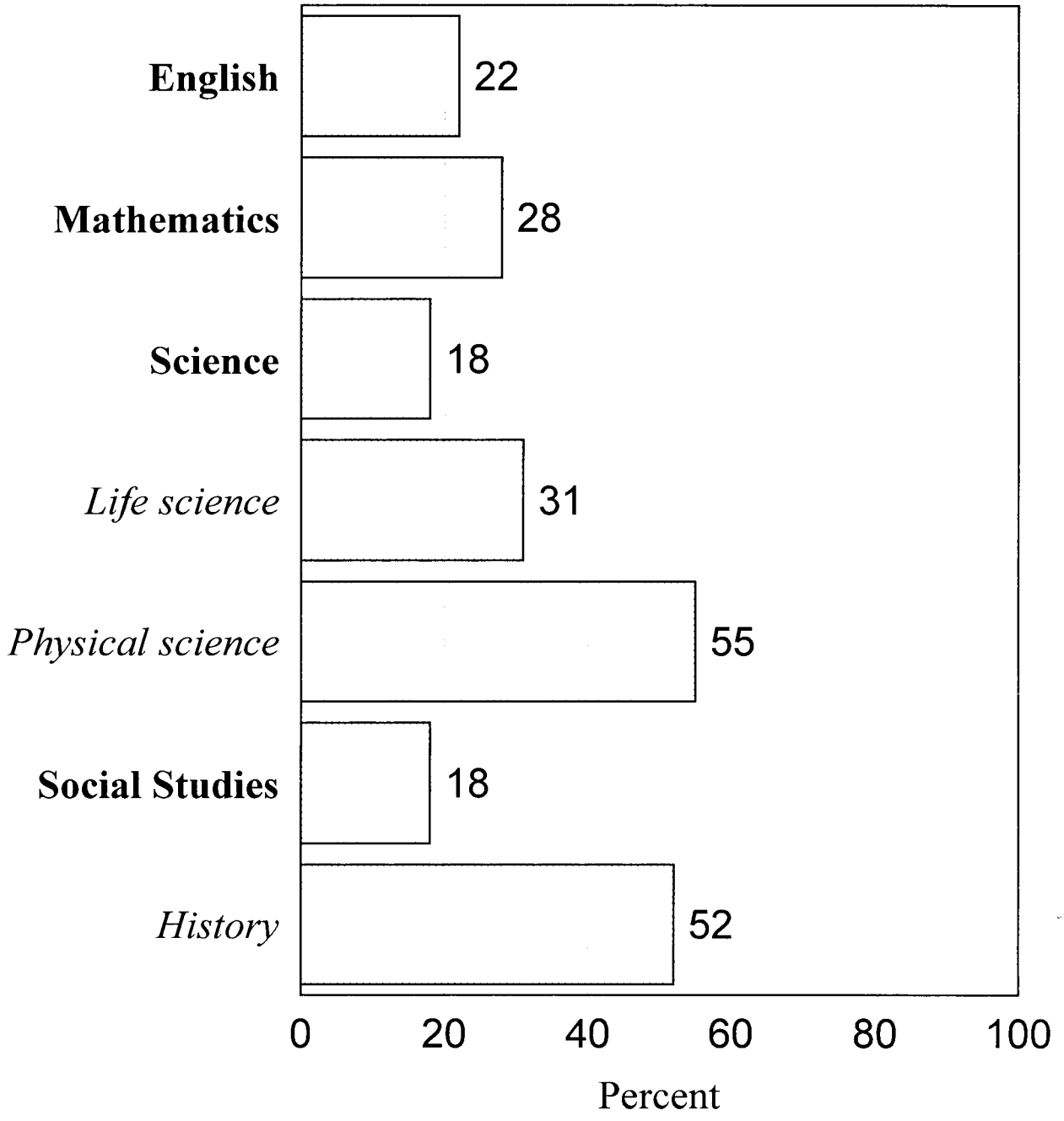
Hence, we need to look beyond simply recruiting and training new teachers; attention must also be paid to supporting and keeping our existing teachers. Improving the management of schools is, of course, to a large extent, out of the jurisdiction of Federal legislation. But there are things that could be done.

For example, simply providing information at the local level on the extent of underqualified and out-of-field teaching could be very helpful. For this reason, I am pleased to notice a Parental Rights Title included in a couple of the currently pending legislative proposals concerned with teacher preparation and recruitment (e.g. Representative Miller's H.R. 2228). Such a measure would go a long way towards bringing to light what has long been a "dirty little secret" - out-of-field teaching assignments.

Federal funds could also be directed towards upgrading the training and skills of existing staff. Despite the Education Department's Eisenhower program, the data show that there is currently very little such support. Moreover, funding could be directed towards alternative schools for problem students; the data reveal that student misbehavior is a large factor in the high teacher turnover that plagues schools.

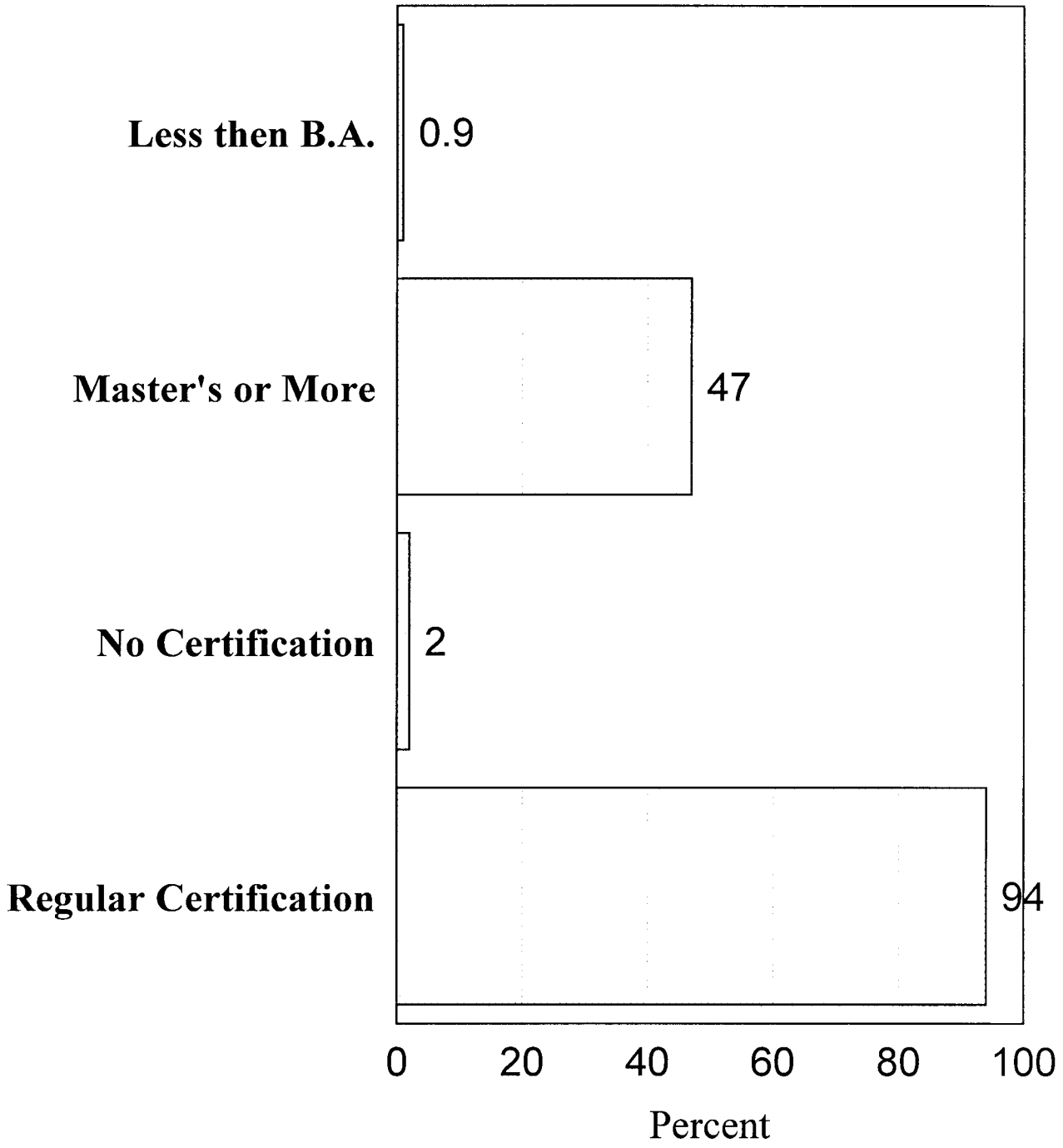
Other reforms are feasible, which I would be happy to discuss with you, as convenient.

Figure 1 - Percentage of public high school (grades 9-12) teachers in each field without a major or minor in that field



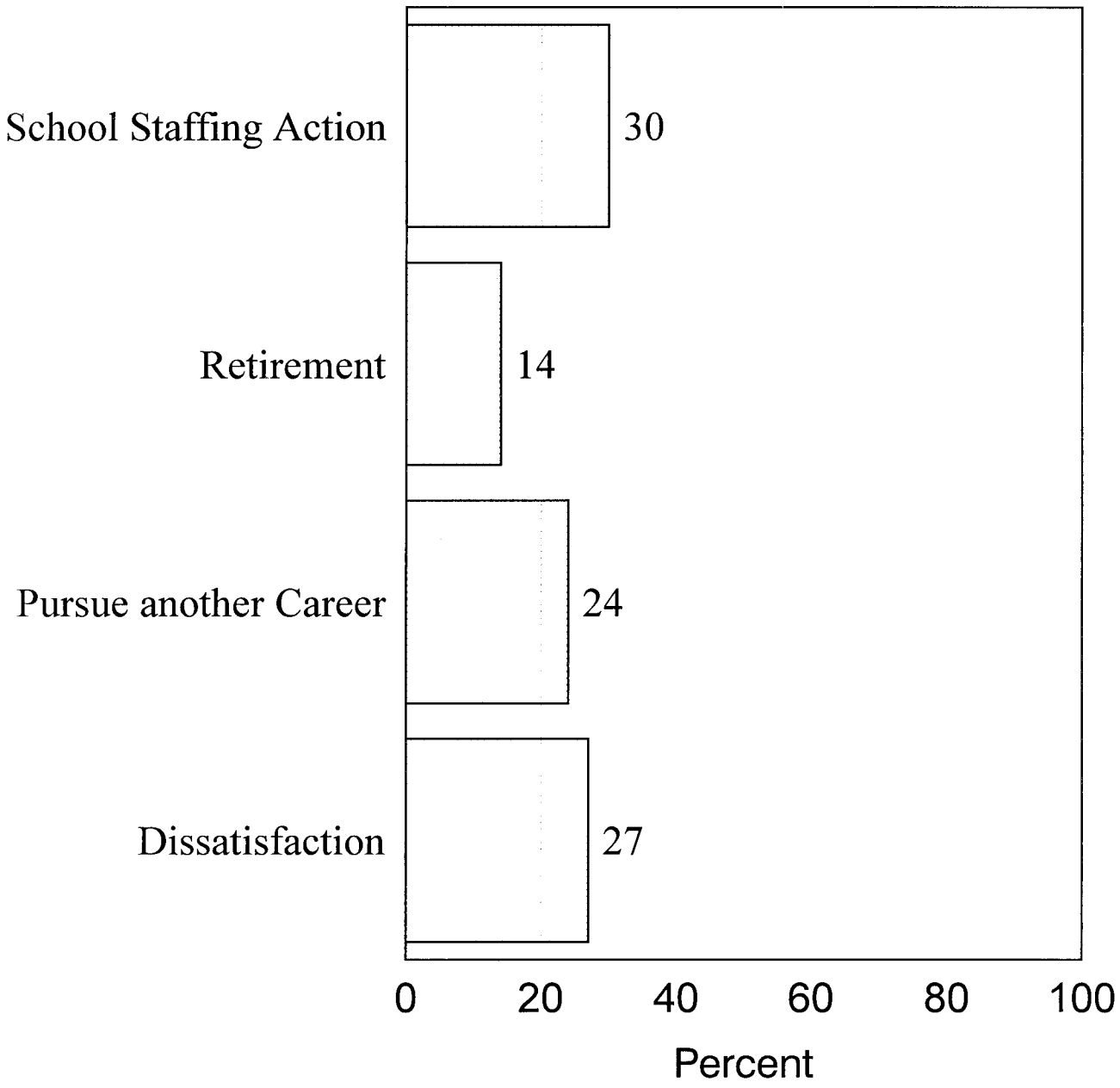
DATA SOURCE: 1993-94 Schools and Staffing Survey

Figure 2 - Percentage of public school teachers, by education and certification



DATA SOURCE: 1993-94 Schools and Staffing Survey

Figure 3 - Reasons public school teachers give for moving from or leaving their teaching jobs



DATA SOURCE: 1991-92 Teacher Followup Survey of the Schools and Staffing Survey

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Richard M. Ingersoll, a former high school teacher, holds a Ph.D. from the University of Pennsylvania and is currently an assistant professor in the Sociology Department at the University of Georgia. He is the author of numerous articles and studies of teachers. His research on out-of-field teaching has appeared in a number of recent education reports, including *What Matters Most: Teaching for America's Future*, 1996, and *Doing What Matters Most: Investing in Quality Teaching,*, 1997, both by the National Commission on Teaching and America's Future; *Quality Counts*, 1998, a special supplement to *Education Week* newsmagazine; and *Education Watch*, 1996, by the Education Trust of the American Association for Higher Education.